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**Product Portfolio 2020** 

# **Pumps I Automation**



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# Our tradition: Competence since 1871

We have supplied generations of customers worldwide with pumps, valves, automation products and services. A company with that kind of experience knows that success is a process based on a stream of innovations. A process made possible by a close working alliance between developer and user, between production and practice.

Partners achieve more together. We do everything possible to ensure that our customers always have access to the ideal product and system solution. KSB is a loyal partner:

- Over 147 years' experience
- Present in more than 100 countries
- More than 15,000 employees
- More than 170 service centres worldwide
- Approximately 3,000 service specialists





# **Smart services for maximum** availability and efficiency

As a leading supplier of pumps and valves, we attach great importance to providing you with a comprehensive service of the highest quality. In fact, we believe it's so important that we even gave it a special name: KSB SupremeServ.

KSB SupremeServ is on hand to support you with classic and digital service and spare parts solutions over the entire product life cycle. Whether it's a KSB product, non-KSB product or other rotating equipment, you'll benefit from the reliable and sustainable operation of your system.

Applications:

Industry

- Water and Waste Water
  - Energy Building Services
- Mining
- Wherever and whenever you need us, we're there for you worldwide. www.ksb.com





# Our mission: Certified quality assurance

First-class products and excellent service take top priority at KSB. To maintain this level of excellence, we have developed a modern quality management system with globally applicable guidelines. It is based on the Business Excellence model of the European Foundation for Quality Management, which already ensures improved quality management Europewide.

Our guidelines define uniform quality for all KSB locations and have helped us to optimise our manufacturing processes. The results are shorter delivery times and global availability of our products. These guidelines govern the way we act so comprehensively that even the competence of our consulting and the good value for money we offer are clearly stipulated. Like the 'Made in Germany' quality seal, we introduced internal certification as a sign of the highest quality: 'Made by KSB'.

#### Our five key goals:

- Maximum customer satisfaction: We do everything to fulfil our customers' wishes on time and in full.
- Fostering quality awareness: We put our quality commitment into daily practice – from executives to employees, whose qualifications and competence we foster through continuing training.
- **Prevention rather than cure:** We systematically analyse errors and prevent the causes.
- Improvement in quality: We continually optimise our processes in order to work more efficiently.
- Involvement of suppliers: We attach great importance to working together fairly and openly to achieve our shared goals.



As a signatory to the United Nations Global Compact, KSB is committed to endorsing the ten principles of the international community in the areas of human rights, labour standards, environmental protection and anticorruption.





# **Industry 4.0:** we have experience with the future

Digital networking of production systems is one of the key challenges ahead. An expert in engineering with long-standing experience in developing Industry 4.0 solutions, KSB is your ideal partner to achieve:

- Resource efficiency and optimised use of materials
- Availability and operating reliability
- Flexibility through short-term reconfigurability
- Reduction of time to market

Increase your system's productivity already today with KSB's smart products and services: Use our intelligent technologies designed to communicate, such as PumpDrive and PumpMeter, to lay a foundation for your smart factory. Find out more about our future-driven solutions at www.ksb.com/industry40



# FluidFuture<sup>®</sup>: the energy-saving concept for your system

Many systems do run reliably but they also use a lot more power than necessary. The solution: efficiency optimisation with FluidFuture<sup>®</sup> in four steps. We look at the entire hydraulic system to achieve maximum energy efficiency throughout the life cycle. The optimisation costs will pay for themselves within a short period through the high energy savings that can be made.

The process and its four steps are clearly defined – based on extensive expertise and experience. This systematic and targeted approach ensures maximum savings at minimum costs. Perfectly matching the hydraulic system, drive and automation products as well as the piping dimensions can result in savings of up to 60 %. We reduce the operating costs of your system by combining our expert knowledge with smart products and services. This is our joint contribution towards an energy-efficient future.

More on FluidFuture<sup>®</sup>: www.ksb.com/fluidfuture



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## **General Information**

ErP	ErP regulations stipulating new, stricter minimum efficiency values became effective at the start of 2015. Since then, only pumps and motors which satisfy the energy efficiency requirements of the European Union's ErP Directive may be placed on the market. For KSB's products this is child's play. They are so efficient, many actually exceed the values required since 2015 – some even those applicable from 2017 as per the ErP regulations.
Regional products	Not all depicted products are available for sale in every country. Products only available in individual regions are indicated accordingly. Please contact your sales representative for details.
Trademark rights	All trademarks or company logos shown in the catalogue are protected by trademark rights owned by KSB SE & Co. KGaA and/or a KSB Group company. The absence of the "®" symbol should not be interpreted to mean that the term is not a registered trademark.
Product illustrations	The products illustrated as examples may include options and accessories incurring a surcharge. Subject to modifications due to technical enhancements.
Product information	For information as per chemicals Regulation (EC) No 1907/2006 (REACH), see www.ksb.com/reach.

## Pumps

				Factory-automated	Automation available	Water Transport and Water Treatment	Industry	Energy Conversion	Building Services	Solids Transport
Design / Application	Type series	Page	ErP	Fac	Autava	Wa Wa	Ind	Ene	Bui	Sol
	Calio-Therm S NC/NCV	30								
Drinking water circulators, fixed speed	Calio-Therm NC	30								
Drinking water circulators, variable speed	Calio-Therm S	30								
	Calio S	30								
Circulators, variable speed	Calio	31								
	Calio Z	31								
	Etaline L	31								
	Etaline DL	31								
	Etaline	32								
	Etaline Z	32								
In-line pumps	Etaline-R	32								
	ILN	32								
	ILNC	33								
	Megaline	33								
	Etanorm	33								
	Etanorm-R	33								
	Etabloc	34								
	Etachrom B	34								
Standardised / close-coupled pumps	Etachrom L	34								
	Etanorm V	34								
	Meganorm	35								
	Megabloc	35								
	HPK-L	35								
Hot water pumps	НРН	35								
	НРК	35								
	Etanorm SYT / RSY	36								
Hot water / thermal oil pumps	Etabloc SYT	36								
	Etaline SYT	36								
	MegaCPK	36								
Standardised chemical pumps	CPKN	37								
	Magnochem	38								
	Magnochem 685	38								
Seal-less pumps	Magnochem-Bloc	38								
	Etaseco / Etaseco-I	38								
	Etaseco RVP	38								
	RPH	39								
	RPH-LF	39								
	RPHb / RPHd	39								
	RPH-V	39								
	CTN	39								
	CHTR	40								
Process pumps	CHTRa	40								
	CINCP / CINCN	40								
	INVCP	40								
	Estigia	40								
	RWCP / RWCN	41								
	WKTR	41								
Deinwesten komzestin n	Hya-Rain / Hya-Rain N	42								
Rainwater harvesting systems	Hya-Rain Eco	42								

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				Factory-automated		Water Transport and Water Treatment		Energy Conversion	ses	ť
				ntom	ы	nspc atme		nver	Building Services	Solids Transport
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Design / Application	Type series	Page	ErP	acto	Automation available	Vatei Vatei	Industry	nerg	uildi	olids
		-	ш	ш			-	ш		S
	Multi Eco Multi Eco-Pro	42								
		42				-				
Domestic water supply systems with automatic control unit / swimming pool pumps	Ixo N	43				-				
	Ixo-Pro	43			_	-				
	Filtra N	43								
	KSB Delta Macro F/VC/SVP	43								
	KSB Delta Solo/Basic Compact MVP	44								
	KSB Delta Basic MVP/SVP	44								
	KSB Delta Primo F/VC/SVP	44								
	KSB Delta Solo MVP/SVP	44								
	Hya-Solo D	44								
	Hya-Solo DSV	45								
	Hya-Solo D FL	45								
	Hya-Duo D FL	45								
Pressure booster systems	Hya-Solo D FL Compact	45								
	Hya-Duo D FL Compact	45								
	Hyamat K	46				_			_	
	Hyamat V	46								
	Hyamat SVP	46					-			
	Hyamat SVP ECO Surpresschrom SIC.2	46		-		-	-		-	
	Surpresschrom SIC.2 V	40		-		-			-	
	Surpresschrom SIC.2 SVP	47		-			-			
	Surpress Feu SFE	47								
	Ama-Drainer N	47								
	Ama-Drainer 4 / 5	47								
	Ama-Drainer 80, 100	48								
Drainage pumps / waste water pumps	Ama-Porter F / S	48								
	Rotex	48								
	MK / MKY	48								
	Amaclean	48								
	Ama-Drainer-Box Mini	49								
	Ama-Drainer-Box	49								
	Evamatic-Box N	49								
	mini-Compacta	49								
Lifting units / package pump stations	Compacta	49								
	CK 800 Pump Station	50				_	_			
	CK 1000 Pump Station	50				_			_	
	Ama-Porter CK Pump Station SRP	50								
	SRL	50			-				-	
	SRS	50							-	
	Amarex	52			-				-	
Submersible motor pumps	Amarex N	52			-	-	-		-	
	Amarex KRT	52			-	-	-		-	
	Amacan K	52			-		_		_	
Submersible pumps in discharge tubes	Amacan P	53								
	Amacan S	53								
	Amamix	54								
Mixers / agitators / tank cleaning units	Amaprop	54								
	Amaline	54								

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Design / Application	Type series	Page	ErP	Factory-automated	Automation available	Water Transport and Water Treatment	Industry	Energy Conversion	Building Services	Solids Transport
	CHTA / CHTC / CHTD	65								
	HGB / HGC / HGD	65								
	HGI	66								
	HGM	66								
	YNK	66								
	LUV / LUVA	66								
	WKTB	66								
Pumps for power station conventional islands	SEZ	67								
	SEZT	67								
	PHZ	67								
	PNZ	67								
	SNW	67								
	PNW	68								
	Beveron	68								
	SPY	68								
	RER	68								
	RSR	68								
	RUV	69								
	PSR	69								
	RHD	69								
Pumps for nuclear power stations	LUV Nuclear	69								
	RHM	69								
	RVM	70								
	RHR	70								
	RVR	70								
	RVT	70								
	RPH-RO	70								
Pumps for desalination by reverse osmosis	HGM-RO	71								
	Multitec-RO	71								
Positive displacement pumps	RC / RCV	71								
	EDS	71								
Fire-fighting systems	DU / EU	72								

Design / Application	Type series	Page	ErP	Water Transport and Water Treatment	Industry	Energy Conversion	<b>Building Services</b>	Solids Transport
Automation and drives	KSB SuPremE	28						
	KSB UMA-S	28						
	Controlmatic E	73						
	Controlmatic E.2	73						
Control units	Cervomatic EDP.2	73						
control units	LevelControl Basic 2	73						
	UPA Control	73						
	Hyatronic N	74						
Veriable speed systems	PumpDrive 2 / PumpDrive 2 Eco	28						
Variable speed systems	PumpDrive R	28						
	PumpMeter	29						
Monitoring and diagnosis	KSB Guard	29						
Monitoring and diagnosis	Amacontrol II	74						
	Amacontrol III	74						

	Calio-Therm S NC/NCV	NC		s																											
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	alio.T	Calio-Therm NC		Calio-Therm S	:	Calio S	Calio Z		Etaline L	Etaline DL Etaline	Etaline Z	taline-	ILN	: IINC	Megaline	Etanorm	Etanorm-R	Etabloc	Etachrom B	Etachrom L	Etanorm V	Meganorm	Megabloc								
Waste water with faeces											, ш 	<u> </u>	=	= ·			<u> </u>	ш 	ш 	ш 	ш 	2	2								
Waste water without faeces	aad		circulators, variable speed		Circulators, variable speed			In-line pumps																							
Aggressive liquids	ed s		ole s		ole s			d e								2															
Inorganic liquids	, fix		ariał		ariat		$\perp$	-li-																$\square$	$ \rightarrow$	$\downarrow$	$\perp$	$\perp$	_	$\perp$	L
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Service water Distillate	- cir		cula	•	cula	_	+	-							- 1						_		_		$\rightarrow$	+	+	+	+-	-	┝
Slurries	ater	+-	- Ċ		÷		+-	-		-+	-				lsec		-			$\rightarrow$	$\neg$		_	$\rightarrow$	+	+	+	+	+-	+	┢
Explosive liquids	N C	+	ater	-	-		+	-	$\vdash$		-	$\left  \right $	$\vdash$		ard		-	$\mid$		+	+		_	$\neg$	+	+	+	+	+	+	$\vdash$
Digested sludge	king	+	- × b		-	+	+	-	$\vdash$		+	$\vdash$	$\vdash$	$\square$	Standardised / close-coupled		-	$\vdash$		+	$\dashv$		_	$\neg$	+	+	+	+	+	+	┢
Solids (ore, sand, gravel, ash)	Drinking water circulators, fixed speed	+	Drinking water	-	-	+	+	-		+	+		$\vdash$	$\vdash$	- t	- r	-	$\vdash$		$\neg$	$\neg$		-	$\rightarrow$	+	+	+	+	+	+	$\vdash$
Flammable liquids		+	<b>T</b> rin				+	-			+						-	$\square$		+	$\neg$			$\neg$	+	+	+	+	+	+	$\vdash$
River, lake and groundwater		+			-	-	+	-			1	$\square$								$\neg$	$\neg$			$\neg$	+	+	+	+	+	+	$\vdash$
Liquefied gas		1				+	+				1						1				1			$\neg$	+	+	+	+	1	1	
Food and beverage production		1					+	-									1								$\neg$	+	+	1	$\uparrow$	1	F
Gas-containing liquids								1																							
Gas turbine fuels		1						-																			T	T	$\square$		Γ
Filtered water																															
Geothermal water																															
Harmful liquids																															L
Toxic liquids																							_								
High-temperature hot water		_					_				_													$ \rightarrow$	$\rightarrow$	$\rightarrow$	$\perp$	_	<u> </u>	-	L
Heating water	-  -							_												-+	_				$\rightarrow$	$\rightarrow$	+	_	+-	-	╞
Highly aggressive liquids Industrial service water	-				-	_	+	-																	$\rightarrow$	+	+	+	+-	+	┝
Condensate				-	-		+	-							-	⊢		-		-		-	-		+	+	+	+	+	+	┢
Corrosive liquids		+			-		+-	-	$\vdash$		-				-		-			$\rightarrow$			_	$\rightarrow$	+	-	+	+	+	+	┢
Valuable liquids		+		-	-		+	-			-				-	-	-						-		-	-	+	+	+	+	┢
Fuels		+			-	+	+	-									-								+	-	+	-	+	+	┢
Coolants		+			-	+	+	-									1						-		$\neg$	-	+	+	+	+	┢
Cooling lubricant		+				-	+	-																	-	-	+	+	+	+	F
Cooling water								-																	+	-	+	+	+	+	F
Volatile liquids																															
Fire-fighting water																															
Solvents																															
Seawater							$\perp$		$\square$																			$\perp$			$\bot$
Oils							$\perp$		$\square$															$\square$	$\square$	$\perp$	$\perp$	$\perp$	$\perp$		L
Organic liquids		_		<u> </u>			_	_					$\square$		_	_	_						_		$ \rightarrow$	$\downarrow$	$\perp$	$\perp$	1	1	L
Pharmaceutical fluids		_		<u> </u>			+	_	-		_				_		_			$ \rightarrow$			_		$\rightarrow$	$\downarrow$	+	+	+	$\vdash$	╞
Polymerising liquids		_		<u> </u>	_	_	+	-	$\vdash$		_	$\vdash$			_	-	_			$ \rightarrow$			_	$ \rightarrow$	$\rightarrow$	$\rightarrow$	+	+	+-	+	$\vdash$
Rainwater / stormwater		_		-	-	_	+	-	-		_	$\mid \mid$	╞		_	-	-				$\rightarrow$	_	_		+	+	+	+	+-		┢
Cleaning agents Raw sludge		+	-	-	-	_	+	-	$\vdash$	_	-				_	-	-			-	_		-		+	+	+	+	+	+	$\vdash$
Lubricants		+-	-	-	-		+	-	$\vdash$		-	$\left  - \right $	$\vdash$	-+	-	-	-	$\vdash$		+	$\neg$		_	$\neg$	$\rightarrow$	+	+	+	+	+	┢
Grey water	-	+	-	-	-		+-	-	$\vdash$		+		$\vdash$		-	-	-	$\vdash$		$\rightarrow$	$\neg$		_	$\neg$	+	+	+	+	+	+	┢
Swimming pool water		+		-	-	+	+	-	$\vdash$		+										$\neg$				+	+	+	+	+	+	┢
Brine		+			-	+	+	-			+				-					-	$\dashv$	-	-	$\neg$	+	+	+	+	+	1	$\vdash$
Feed water		+				$\neg$	+									Ē	<u> </u>	Ē		$\uparrow$	$\neg$			$\neg$	+	+	+	+	+	1	$\vdash$
Dipping paints		1					+					$\square$					1					-			+	+	+	+	1	1	
Drinking water																															
Thermal oil																															
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Hot water Wash water					_			'-								_								_	$\rightarrow$			_	_	+	<u> </u>

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Waste water with faeces				_					-					_					-	-	-		-							
	Hot water pumps	_	_	Hot water / thermal oil pumps	$\vdash$	_	Standardised chemical pumps	-		l-less pumps	_		_		Process pumps		_	-					_	_	_	Rainwater harvesting systems		$\vdash$		
Waste water without faeces	bur		_	bu			- na			bur					bur			-		_	_					/ste		$\square$		
Aggressive liquids	er			i			la la			SS				_	SS	_								_		g s				
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Activated sludge	1			L L			he			Seal					2										<u> </u>	Ves				
Brackish water	ゴ			the			g																	1		har				
Service water	1 [			er /			dise																		I T	er				
Distillate	1 6			ate			lar																	i T	1	vat				
Slurries			+	S T			and				$\neg$		-								+	+	+	┢	+	i.c				
Explosive liquids		+	+	£	$\vdash$		St.												$\vdash$			+		+		Ra	$\vdash$	$\vdash$		$\neg$
Digested sludge			+-		$\vdash$			-		-	-			+	-	-		-	$\vdash$	-	-	+	+-	+	┿╸		$\vdash$	┝─┤	$\dashv$	-
		_			$\vdash$	_	-	-	$\left  - \right $		-+	_		+		-+	_		$\vdash$	_	-+	_	+	+-	+-	-	$\vdash$	$\vdash$		_
Solids (ore, sand, gravel, ash)	┥┝	_				_	-			-	$\rightarrow$		_		-	-+		-		_	$\rightarrow$	_	_		_	-		$\vdash$		_
Flammable liquids							-								-											-				
River, lake and groundwater																														
Liquefied gas																														
Food and beverage production																														
Gas-containing liquids	1 [																				Т			ī		]				
Gas turbine fuels	1										Í					Ť					Ť				1	1				1
Filtered water													1		-								+	+	+					
Geothermal water			+-			_					$\rightarrow$		+		-				-	-	+	+	+	+	+					-
Harmful liquids	┥┝	+	+		$\vdash$					-					-							+		+				$\vdash$		$\neg$
Toxic liquids	┥╴┝				$\vdash$	_	-			-					-											-	$\vdash$	$\vdash$		_
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High-temperature hot water								•		-		•			-		_	-				_	+	+	+-	-		$\vdash$		
Heating water					$\vdash$										-								+	_				$\square$		
Highly aggressive liquids																							$\perp$							
Industrial service water																									<u>                                     </u>					
Condensate																														
Corrosive liquids																														
Valuable liquids	1			1																				ı T		1				T
Fuels	1  -						1								-									i T		1				
Coolants			-							-					-			+-		-	-			_	+-					$\neg$
Cooling lubricant	1 -				$\vdash$					-	-			-	-		-	-			+	+			+			$\vdash$		$\neg$
Cooling water	1 -	_			$\vdash$		$\left\{ \right\}$			-	_	_		-	-	_		+		$\rightarrow$	+	+		_	+		$\vdash$	$\vdash$		-
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Fire-fighting water																							$\perp$	$\perp$						
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Polymerising liquids		+	+							-					-			+			+	+		+	+					-
Rainwater / stormwater		+	+-		$\vdash$			-			-			+		+	+	+			+	+			+-				$\neg$	-
Cleaning agents		_	+-			_				-					-			-						_	+-					_
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Raw sludge		_	_	-	$\vdash$		-	_		-	_	_	_	_	-		_	_			_	_	_	+	_	-		$\square$		
Lubricants																							1							
Grey water																									<u>(                                    </u>					
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Brine	1 [																				Т			ī		]		$\square$		
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Aggressive liquids	bn	+		-			syst	+							-	+			_			_	_					+	-		_
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Activated sludge	р Д			1			000	+					+		+	+						_	_	_				+	1		_
Brackish water	ц.		$\neg$	1				+	1						+	+									$\neg$			+	+		-
Service water	Ę.						Pressure	1														_	_	_					1		
Distillate	/ s/						Pre															_	_						1		
Slurries	Domestic water supply systems with automatic control unit / swimming pool pumps								1				1												$\neg$	1					
Explosive liquids	0							1					╈													$\neg$					
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Liquefied gas	า ลเ																														
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Gas-containing liquids	ms.																														
Gas turbine fuels	/ste																														
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Harmful liquids	er su					_		_								_												_	_		
Toxic liquids	/ate							_				_			_	_							_		$\rightarrow$			_			
High-temperature hot water	- <u>-</u>	_	_	_		_	-		_	$\square$			_	_	_	_									_	_	_	_	-		
Heating water	Jest	$\rightarrow$		_		_	-		-				_	_	_	-	$\vdash$								$\rightarrow$						-
Highly aggressive liquids Industrial service water	- No	-	_	_		_			-			_	_	_	_	-			_	_	_	_	_		_	_	_	-	-		+
Condensate		+	_	+-	$\left  - \right $	_			-					_		+-	-		-		-	-	-		$\rightarrow$	-	_	+-	+		_
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Valuable liquids		+	_	+			-	+	-			-	+		+	+-						_			$\rightarrow$	-+		+-	+		-
Fuels	-	$\rightarrow$		+-			-	+	-			-+	+		+	+-			_			_	_		$\rightarrow$	-		+-	+		
Coolants		+						+	-				-		+	+-			_						$\rightarrow$			+-	+		_
Cooling lubricant		+		+				+-	-	$\vdash$		$\rightarrow$	+		+	+			_			_	_	_	$\rightarrow$		-	+	-		
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Volatile liquids		+		-				+					+		+	+						_	_		-			+	-		
Fire-fighting water		+		1				1		H		$\neg$	$\neg$				$\square$								$\rightarrow$	$\neg$	+	+	1		-
Solvents		$\uparrow$	$\neg$	1	$\square$			1	1	$\square$				+			$\square$								$\neg$	$\uparrow$	+		1		1
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Organic liquids																															
Pharmaceutical fluids																															
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Rainwater / stormwater		_[																													
Cleaning agents																															
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Grey water				_				_		$\square$	$\square$					_												_	_		$\perp$
Swimming pool water				_		-									-	_									-	$\parallel$		_	-		
Brine		$\rightarrow$		_	$\left  \right $	_		-	-	$\left  - \right $	$\vdash$		+		_		$\square$	$\square$	_						-+	-	_	_			-
Feed water	-	$\rightarrow$		_	$\left  \right $				-	$\left  - \right $	$\vdash$		+		_		$\vdash$	$\square$	_		_				$\rightarrow$	$\dashv$		_			$\rightarrow$
Dipping paints		_		-	$\left  \right $	_							+	_	+	+-					_				$\rightarrow$	+	+		-	$\left  \right $	-
Drinking water Thermal oil		-			$\left  - \right $	_			-	╞═┤			-	+	_				-		-		-		$\rightarrow$	+	-		-	$\left  - \right $	+
Hot water		+	+	+-	$\left  - \right $	_		+	-	$\left  - \right $	$\vdash$	-+	+	+		+-	$\vdash$		_	$ \rightarrow $		_	_		$\rightarrow$	+	+	+-	-	$\left  - \right $	$\rightarrow$
Wash water	-	+	+	+	$\left  \right $			+	-	$\vdash$	$\vdash$	+	+	+	+	+-		$\square$	_			_	_		$\dashv$	+	+	-	-	$\left  - \right $	+
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	Ama-Drainer N	4	8	Ama-Porter F / S				à	Ama-Drainer-Box Ama-Drainer-Box	Evamatic-Box N	mini-Compacta		ŝ	đ	X																
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Waste water with faeces	S						S												S 📕												_
Waste water without faeces	Ĕ,					─ .	E I												sdund					1						+	_
Aggressive liquids	nd		-	-			tat						-	-	-	-			a –				-	-	+			+	$\rightarrow$		—
	ter	_	-	$\left  \right $		-	d –	+	_		-							-	<u>b</u> –	+	-		_		+			-	$\rightarrow$	+	_
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Activated sludge	te	_				_	a b	_										_	e u										$\rightarrow$	$\rightarrow$	_
Brackish water	vas						ag											-													
Service water	$\leq$						ack												l er												
Distillate	du						d/											-		Τ											_
Slurries	bur		1			:	lits											·	~	1	1		1		$\square$					$\uparrow$	_
Explosive liquids	ge	+	1		$\vdash$		5	+	+		1						$\neg$			$\top$	1		+	1		+			+	+	_
Digested sludge	naj	+	+	$\vdash$	$\vdash$	—	<u>o</u>	+	+	-	-	$\square$		$\vdash$		$\left  - \right $	+	-[				- -	+-	+	$\vdash$	$\vdash$			+	+	—
<u>_</u>	Drainage pumps / waste water pumps	-		$\vdash$	$\vdash$	-	Lifting units / package pump stations	+	_	_	-	-	$ \vdash $	$\vdash$		-	-+	_			-	$\vdash$	+		$\vdash$	$\square$			$\rightarrow$	+	_
Solids (ore, sand, gravel, ash)		-	-	$\square$	$\square$			_	+	_	-			$\vdash$				_	-	_	-		_		$\left  \right $			_	+	+	
Flammable liquids		_	_	$\square$	$\square$			_	_	_	-			$\square$				_	-	_	-	- -	_	_	$\square$			_	$\rightarrow$	+	_
River, lake and groundwater																															_
Liquefied gas																															
Food and beverage production																															
Gas-containing liquids			1																				1		$\square$						_
Gas turbine fuels			1						1		1									1	1									+	_
Filtered water		+-	+	$\left  - \right $				+	+	-	-		-					-		+			-	+	+			+		+	—
Geothermal water	-		+			_		+	-	-	-	-	_						-	-	-		-	-	+				$\rightarrow$	+	_
		_	+	$\left  - \right $				+	_		-							_	-	-			-		$\left  \right $				$\rightarrow$	+	_
Harmful liquids	-	_				_	-	_	_	_								_		_	-		_	-	$\left  \right $				$\rightarrow$	+	_
Toxic liquids	_		_							_									_									_		$\rightarrow$	_
High-temperature hot water																													$\square$		
Heating water																															
Highly aggressive liquids																															
Industrial service water																														Т	_
Condensate			1																											$\neg$	_
Corrosive liquids			1																									-		+	_
Valuable liquids	-		-			-		+			-				_			_		+	+-		-	-	+			+			_
Fuels		+-	+	$\left  - \right $				+	+		-								-	+-	-		-	+	+				$\rightarrow$	+	_
	-	_	+	$\vdash$		_		+	_	_	-						_	_		+	-		_	-	$\left  \right $				$\rightarrow$	+	_
Coolants			-			_				_								_		_			_	_				_		+	
Cooling lubricant		_	-	$\square$	$\square$				_	_	-								-	_	-		_	-					$\rightarrow$	$\perp$	
Cooling water																															
Volatile liquids					LT									LĨ																	
Fire-fighting water		Τ						Τ	T											T				Τ						T	
Solvents				$\square$				1			1									1	1			1	$\square$					+	_
Seawater		+	1	$\square$	$\vdash$			+	+								+	_					1	1	$\vdash$	+		+		+	_
Oils	-	+	+	$\vdash$	$\vdash$			+	+	-	-			$\vdash$				-		+	1-		+	+	+	+		+	+	+	—
	-	+-	+	$\left  - \right $	$\vdash$	-		+		_	-	$\left  - \right $	$\vdash$	$\vdash$		$\left  - \right $	-+	_	-	+	-	$\vdash$	+		$\left  - \right $	$\vdash$	_		$\rightarrow$	+	_
Organic liquids	_	+		$\vdash$	$\vdash$	_		+	_	_				$\vdash$			-+	_	-	-	-	- -	_		$\left  \right $	$\vdash$			$\rightarrow$	+	_
Pharmaceutical fluids	_	_	_	$\square$	$\square$	_		+	_	_	-								_	_	-		_	_				_	$\rightarrow$	+	
Polymerising liquids		_		$\square$	$\square$						_											$\square$	_	_	$\square$				$\square$	$\perp$	_
Rainwater / stormwater																															
Cleaning agents																															
Raw sludge																															_
Lubricants											1									1	1		1							$\uparrow$	_
Grey water																							1	1	$\square$	$\dashv$			$\neg$	+	_
Swimming pool water		┼╴	+-		-+	-		+	+-	+-	-	F	-		_		-+ <b>·</b>	-[		+	<u> </u>		+	+	$\left  \right $		+		+	+	_
Brine		+-	+	$\vdash$	$\vdash$	_		+	+				$\vdash$	$\vdash$			-+	-[		+		$\vdash$	+-		$\left  - \right $	$\vdash$			$\rightarrow$	+	_
Feed water	-	+-	+	$\vdash$	$\vdash$	_		+	+		-			$\left  - \right $		-	-+	_	-	+	-			+	$\left  \right $	-+	_		$\rightarrow$	+	—
	-	+	-	$\vdash$	$\vdash$	_		+	+		-	$\left  - \right $		$\left  - \right $		$\left  - \right $		_	-	-	-	$\vdash$	-		$\left  \cdot \right $	$\square$			+	+	
Dipping paints				$\vdash$	$\vdash$	_		_	_	_				$\vdash$			_	-[	-	-	-	$\vdash$	-		$\square$	$\square$	_	+	$\rightarrow$	+	_
Drinking water	_	_	-	$\square$	$\square$	_												_	_	-			-	-					$\rightarrow$	+	
Thermal oil		_	-	$\square$	$\square$					_	<u> </u>			$\square$						_	-	$\square$	_	-					$\rightarrow$	$\perp$	
Hot water																			_												
Wash water																															
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		Amacan K Amacan P	Amacan S		Amamix	Amaprop	Amaline		Sewatec	Sewatec SPN	Sewabloc	KWP	KWP-Bloc		WBC	LSA-S	LCC-R	TBC	LCV	FGD		MDX	ZW	HVF		Etaprime L	Etaprime B	EZ B/L	AU	AU Monobloc		
Waste water with faeces	es			units				ds			-	-		sdi											sd	$\square$			$\square$			$\perp$
Waste water without faeces	tub			l n			•	flui						m											m						$\perp$	$\perp$
Aggressive liquids			_	cleaning			_	den						Slurry pumps								_	-		Self-priming pumps						+	+
Inorganic liquids	- cha	_	_	lear			_	s-la	_		_	-		Slui	_		_	_			_	_	-		.i.	$\vdash$	$\rightarrow$		$\vdash$	-	+	+
Activated sludge	gi			녿			-	olid				$\rightarrow$	_	-	_	_	_	-			_	-			f-pr						+	+
Brackish water Service water	os ir			/ tai			_	or so			$\rightarrow$			-	_	_	_					+	+		Sel				┝═┤	-	+	+
Distillate	Ē			ors			-	ps f			$\rightarrow$	-	-	ŀ		+	+	+				+	+			-	-		$\vdash$	+	+	+
Slurries		+	+-	agitators / tank		$\vdash$	$\neg$	Pumps for solids-laden fluids	$\vdash$		$\dashv$															$\dashv$	+	$\neg$	$\vdash$	+	+	+
Explosive liquids	sib	+	+					₽.			$\dashv$	_	-		_		+	+-	-			+	+-	$\exists$		$\neg$	+		$\square$	+	+	+
Digested sludge	mer	+	1	Mixers /								+			+	+	+	1	$\square$	$\square$	+	1	$\vdash$	$\square$		$\neg$	+		$\square$	+	+	╈
Solids (ore, sand, gravel, ash)	Sub		1	Mix							-															$\neg$	$\uparrow$		$\square$	$\neg$	+	$\uparrow$
Flammable liquids											$\neg$	$\uparrow$			$\uparrow$			1				1	1	$\square$			$\neg$			$\neg$	1	T
River, lake and groundwater																																
 Liquefied gas																																
Food and beverage production																																
Gas-containing liquids																													$\square$			
Gas turbine fuels																										$\square$			$\square$			
Filtered water				_																									Ц			
Geothermal water				_																			_			$\vdash$	$ \rightarrow$		Ц	$\perp$	$\perp$	$\perp$
Harmful liquids			_	_							_	_		-				_			_	_	_			$\vdash$	$ \rightarrow$		$\square$	$\square$	$\perp$	$\perp$
Toxic liquids		_	_	-			_				$\rightarrow$	$\rightarrow$	_	-		_	_	_				-				$ \rightarrow$	$\rightarrow$		$\vdash$	$\rightarrow$	+	+
High-temperature hot water	┥┝	_	_	-			_				$\rightarrow$	-		-	_	_	_					+	-		-	$\vdash$	$\rightarrow$		$\vdash$	$\rightarrow$	+	+
Heating water	4 -	+	-	-			_				-	_	_	-	_	_	+	-			_	+	-			$ \rightarrow$	$\rightarrow$		$\vdash$	-	+	+
Highly aggressive liquids Industrial service water				-			_				$\rightarrow$		_	-	_		+	+			_	+	+		ŀ	$ \rightarrow$	$\rightarrow$		$\vdash$	+	+	+
Condensate				-			_				-	-	-	-	-		+	-			_	+	-						$\vdash$	+	+	+
Corrosive liquids		+	+-	-			-							-	-							+	+			-	-		H	+	+	+
Valuable liquids		+	+-								$\rightarrow$	-	-	ŀ				-		-	+	+	+			$\rightarrow$	-		$\vdash$	+	+	+
Fuels		+	+									$\neg$		ŀ			+	+				+	1			$\neg$	-		$\square$	+	+	+
Coolants			1															1				$\vdash$	1						$\square$	-	+	+
Cooling lubricant			1											ŀ				1				1	1								1	╈
Cooling water																																
Volatile liquids																																
Fire-fighting water																																Γ
Solvents																													Ш			
Seawater						$\square$			$\square$									_					_	Ц							$\perp$	$\downarrow$
Oils			_				_				$ \downarrow$	$ \downarrow$			+	_	_	_			_	_	_	$\square$					$\square$	$\perp$	$\perp$	$\downarrow$
Organic liquids		_	_				_		-		$\rightarrow$	-	_	-	+	_	_	-	$\left  - \right $		_	-	-	$\left  - \right $		$\rightarrow$	$\dashv$	$ \rightarrow $	$\vdash$	+	+	+
Pharmaceutical fluids		_			$\left  - \right $	$\vdash$	_		$\mid \mid$		-	-	_		+	_	_		$\square$		_	-	-			$ \rightarrow$	$\dashv$		$\vdash$	-	+	+
Polymerising liquids Rainwater / stormwater						$\vdash$	_					+	_	-	+	_	_	-	$\left  - \right $		_	-		$\vdash$		$ \rightarrow$	$\dashv$	$ \rightarrow$	$\vdash$	-+	+	+
Cleaning agents			┤┛		$\left  - \right $	$\vdash$	_					+	_	-	+	+	+	-	$\vdash$	$\vdash$	+	+-	-	$\vdash$			╞	$\neg$	⊢┤	-+	+	+
Raw sludge		+	+			$\vdash$	$\neg$					+	-		+	+	+	+		$\vdash$	+	+-	+	$\left  - \right $		-	-	$\neg$	$\vdash$	+	+	+
Lubricants		+	+-			$\vdash$	-				-+	$\dashv$			+	+	+	+		$\vdash$	+	+	+	$\square$		$\dashv$	$\neg$	$\neg$		+	+	+
Grey water		+	+			$\vdash$									+					$\vdash$	+	+				$\rightarrow$	$\neg$				+	+
Swimming pool water		+	+							-	-+	+			+	+	+			$\square$		1	1						$\square$	+	+	+
Brine		+	+								$\neg$				+	+	+	1	$\square$			1	1					$\neg$	$\square$	+	+	+
Feed water		$\top$	1						$\square$		$\neg$	$\uparrow$			$\uparrow$			1					1			$\neg$				$\neg$	+	$\uparrow$
Dipping paints																																
Drinking water																																
Thermal oil												T																	$\square$			
Hot water																													Ш			$\perp$
Wash water																																

	11PAchrom 100 CC	UPAchrom 100 CN	UPA 150 C	UPA 200, 200B, 250C	UPA 300, 350	UPA 400-850		B Pump		Comeo	Movitec H(S)I	Movitec	Movitec VC	Multitec	Omega	RDLO	RDLP	Vitachrom	Vitacast/Vitacast Bloc	Vitaprime	Vitastage	Vitalobe		CHTA / CHTC / CHTD	HGB / HGC / HGD	HGI	HGM	YNK	LUV / LUVA	WKIB	
Waste water with faeces	sdu	_						<u>s</u>	sdu					sdu	-			les					spu		$\dashv$	$ \rightarrow$	$\rightarrow$	$\downarrow$			_
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Activated sludge	Submersible borehole pumps	+					+urbino		High-pressure pumps			$\neg$	+	Axially split pumps	· —		-	- Itica	+	1	$\square$		power station conventional islands		$\rightarrow$	+	+	+			1
Brackish water	e p								d-hg					Axia				nege					onve								
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Slurries Explosive liquids	- Sut		-	$\left  \right $	-		-	-			-+	_	_	_	-		—	and	+		-	-	er st		_	$\rightarrow$	$\rightarrow$	+		_	_
Digested sludge		+	-		$\neg$	_						-		-				age	+	+	┢		MO			$\rightarrow$	$\rightarrow$	+	_	-	+
Solids (ore, sand, gravel, ash)		+	-		$\dashv$						$\dashv$	$\neg$	+			$\vdash$	_	beverage and pharmaceutical industries	+	-	1	H	or p		+	+	$\dashv$	+		+	+
Flammable liquids																		, pe					Pumps for								
River, lake and groundwater													_					Hygienic pumps for the food,					Pun			$\square$					
Liquefied gas		_										_						he	_	_	_				$\rightarrow$	$\rightarrow$	$\rightarrow$	$\rightarrow$			
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High-temperature hot water	┥┝																														$\perp$
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Fire-fighting water		1																	╈		$\square$				$\neg$	+	$\neg$	+			+
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Organic liquids Pharmaceutical fluids		+	-	$\left  - \right $	+	_	-				$\dashv$	+	┦		-	$\vdash$								$\vdash$	+	+	+	+	_	+	+
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Rainwater / stormwater																										$ \uparrow $	_	$\uparrow$			
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Waste water with faces       y
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Waste water without faces       Aggressive liquids       Imorganic liquids
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Aggressive liquids       Image: service water       I
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Solids (ore, sand, gravel, ash) 0   Flammable liquids   River, lake and groundwater   Liquefied gas   Food and beverage production   Gas-containing liquids   Gas-turbine fuels   Filtered water   Filtered water   Harmful liquids   Cast liquids <td< td=""></td<>
Solids (ore, sand, gravel, ash) 0   Flammable liquids   River, lake and groundwater   Liquefied gas   Food and beverage production   Gas-containing liquids   Gas-turbine fuels   Filtered water   Filtered water   Harmful liquids   Cast liquids <td< td=""></td<>
Solids (ore, sand, gravel, ash) 0   Flammable liquids   River, lake and groundwater   Liquefied gas   Food and beverage production   Gas-containing liquids   Gas-turbine fuels   Filtered water   Filtered water   Harmful liquids   Cast liquids <td< td=""></td<>
Solids (ore, sand, gravel, ash) 0   Flammable liquids   River, lake and groundwater   Liquefied gas   Food and beverage production   Gas-containing liquids   Gas-turbine fuels   Filtered water   Filtered water   Harmful liquids   Cast liquids <td< td=""></td<>
Solids (ore, sand, gravel, ash) 0   Flammable liquids   River, lake and groundwater   Liquefied gas   Food and beverage production   Gas-containing liquids   Gas-turbine fuels   Filtered water   Filtered water   Harmful liquids   Cast liquids <td< td=""></td<>
River, lake and groundwater 5 1
River, lake and groundwater 5 1
Liquefied gas   Food and beverage production   Gas-containing liquids   Gas turbine fuels   Filtered water   Geothermal water   Harmful liquids   Toxic liquids   Harmful liquids   H
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Toxic liquids       I       <
High-temperature hot water       I
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Condensate
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Valuable liquids
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Cooling lubricant
Cooling water a black and a bl
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Fire-fighting water     Image: Second s
Solvents Solvents
Seawater         Image: Seawater </td
Oils III III III III III III III III III I
Organic liquids
Pharmaceutical fluids
Polymerising liquids
Rainwater / stormwater
Cleaning agents
Raw sludge
Lubricants
Grey water
Swimming pool water
Brine
Feed water
Dipping paints
Drinking water
Thermal oil I I I I I I I I I I I I I I I I I I I
Hot water
Wash water

	Calio-Therm S NC/NCV	Calio-Therm NC		Calio-Therm S	Calio S	Calio	Calio Z		Etaline L	Etaline DL	Etaline	Etaline Z	Etaline-R	ILN	ILNC	Megaline	7 4 a a a a a a a a a a a a a a a a a a	Etanorm Etanorm_P	Etabloc	Etachrom B	Etachrom L	Etanorm V	Meganorm	Megabloc									
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Offshore platforms		+-	$\vdash$		$\vdash$		-		$\vdash$		+	+		_					$\neg$				+-	┼─	+		$\vdash$		$\vdash$	-
Paper and pulp industry		+	$\vdash$		$\vdash$		-				+	+	$\left  \right $		F	+-	-		$\rightarrow$	-+					+		$\vdash$		$\rightarrow$	-
Petrochemical industry		+	$\vdash$		$\vdash$		-																	-			$\vdash$		$ \rightarrow$	
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Pipelines and tank farms		+	+				-			l															+		$\vdash$		$\vdash$	_
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Rainwater harvesting		+	+		$\vdash$	+	-		$\vdash$		+	+				+		$\vdash$			_				+				$\vdash$	-
Cleaning of stormwater tanks / storage sewers		+	$\vdash$		$\vdash$	$\neg$	-		$\vdash$		+	+	-			+			$\rightarrow$	-	1	1	+-	╞	+		Ē	H	$ \rightarrow$	-
Recirculation		+	$\vdash$		$\vdash$	$\neg$	-		$\vdash$		+	+	-			+		$\vdash$		+	+	+	+	$\vdash$	+				$ \rightarrow$	-
Dredging		1	+		$\vdash$	$\neg$	-		$\vdash$		+	+				+			-+	+	+	+	+	$\vdash$	+				$\vdash$	-
Shipbuilding		1	$\square$		$\vdash$	+	-		$\square$		+					+		$\vdash$	$\rightarrow$	+	+				+				$ \dashv$	-
Sludge disposal		1	$\square$		$\vdash$				$\vdash$		+	1				+			+	+	+	+	+		_				$\neg$	-
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Geothermal energy	Domestic water supply systems with automatic control unit / swimming pool pumps	$\left  \right $		_	$\vdash$		_			_	_	-	_	_	-	$\left  \right $	_		-					-	$\left  \right $	_	_	+	$\vdash$	
Drawdown of groundwater levels	em	$\square$			$\square$		_	$\square$		$\rightarrow$		_	_	_	-			_	-	<u> </u>				-	$\square$	-+		+	$\square$	
Maintenance of groundwater levels	yst	$\square$			$\square$											$\square$			1						$\square$				$\square$	
Domestic water supply	_ S																													
Flood control / coast protection (stormwater)	dd																													
Homogenisation	r su																												$\square$	
Industrial recirculation systems	ate													1		$\vdash$		1	1					1				1		_
Nuclear power stations	Ň													+	-				1					+				+		_
Boiler feed applications	stic	+		+-									+	+-		$\left  \right $		+	-	<u> </u>				+	+			+	$\left  - \right $	_
Boiler recirculation	me –		_				_				+	_				$\left  \right $									+	-+	_	+	$\left  \right $	_
	å –		_	_		-	_				+	_	_				_	_						-	$\left  \right $	_	_	+	$\vdash$	_
Waste water treatment plants		$\vdash$		_			_				_	_	_	_		$\vdash$		_							$ \rightarrow $		_		$\vdash$	
Air-conditioning systems				_			_								_	$\square$			_										$\square$	
Condensate transport																														
Cooling circuits																														
Paint shops																														
Food and beverage industry																														
Seawater desalination / reverse osmosis																								1						_
Mixing				-										+	-			-	1					1			$\neg$	+		_
Offshore platforms				-										+		$\vdash$			1	<u> </u>				-				+		
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Petrochemical industry				_			_				-+							_	_					_			_			
Pharmaceutical industry																$\square$														_
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Refineries																														
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Cleaning of stormwater tanks / storage sewers		$\uparrow$		1	$\square$					+	$\neg$				1			1	1	i				1		$\uparrow$	1	+	$\vdash$	_
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Dredging		+		+	$\vdash$		_	$\vdash$	+	+	+	+	+	+	+			+	+	-				+	+	+	+	+	$\vdash$	—
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Shipbuilding		+		+-	$\vdash$		_	$\vdash$		+	_	_	+		-	$\vdash$	_	+		<u> </u>	$\square$			+	+	$\rightarrow$	_	+	$\vdash$	
Sludge disposal		$\left  \right $		_	$\square$				_	+	_	_	_	_	-	$\vdash$	_			<u> </u>				-	$\left  \right $	$\rightarrow$	_	+'	$\mid \mid \mid$	
Sludge processing				_				$\square$							_			_	_					_					$\square$	
Snow-making systems																													$\square$	
Heavy oil and coal upgrading																ļ														
Swimming pools																LT													LT	
Solar thermal energy systems										Ì																Ì				
Fountains					$\square$				$\neg$	+	+		1	1	1			1	1					1		$\uparrow$		+	$\square$	—
Keeping in suspension		+		+	$\vdash$		-	$\vdash$		+	+	+	+	+	1	$\vdash$	+	+	1					+	$\vdash$	+	+	+	$\vdash$	—
Thermal oil circulation		+			$\vdash$		-	$\vdash$	-+	+	+	+	+	+-	+	$\vdash$	-	+-	-		$\vdash$			+-	+	+	-	+	$\vdash$	_
		+			$\vdash$		_	$\vdash$	-	+	+	+	+	-	-	$\left  \right $		+	-	-	$\square$			+	$\left  \right $	+	+	+	$\vdash$	
Draining of pits, shafts, etc.		+		_	$\vdash$		_		-+	+	-	_	+	+	-		_		-	<u> </u>				+	$\left  \right $	+		+	$\vdash$	
Process engineering		$\vdash$		_	$\square$		_	$\square$		$\rightarrow$		-	_		-	$\vdash$		_	-					-	$\left  \right $	$\rightarrow$		+'	$\square$	
Heat recovery systems		$\square$		_	$\square$			$\square$					_	_	_	$\vdash$			-	<u> </u>				-	$\square$			+	$\square$	
Hot-water heating systems																														
Washing plants																														
Water treatment										T	T	T	T													T				
Water extraction																											1		$\square$	_
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Sugar industry		+-+		+-	$\vdash$		-	-	-+	_			-	+	+			+-	+-	<u> </u>	-			+	+	+	+	+		—
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## Applications

		Ama-Drainer N	Ama-Drainer 4 / 5 Ama-Drainer 80, 100	Ama-Porter F / S	Rotex	MK / MKY		Amaclean	Ama-Drainer-Box Mini	Ama-Drainer-Box	Evamatic-Box N	mini-Compacta	Compacta	CK 800 Pump Station	Amo Portor CV Primo Station	Ата-Рогсег СК Ритр этацол SRP	SRL	SRS	A monto	Amarex Amarex N	Amarex KRT								
Aquaculture	sd						suo												s										
Spray irrigation	sdwnd	$\rightarrow$	_	_	-	_	tatic	_			$\rightarrow$		_	_		_	$\left  \right $		Submersible motor pumps	_	_		_	_		_	_	$\vdash$	_
Mining General irrigation	ater	+	_	+-	+	$\vdash$	s du	-			-+	_	_		_	_	+	-	otor				_	-		_		$\vdash$	_
Chemical industry	waste water	+		+	+	┢	und				$\rightarrow$		-	+	-		+		Ĕ	÷				+			+-		
Dock facilities	vasti				1	$\square$	age											-											
Drainage	<b>_</b>						back												mer									$\square$	
Pressure boosting	u u	$\rightarrow$		_	-	_	ts / p	L			$\rightarrow$	_		_		_			an –	_			_	_			_	-	_
Sludge thickeningDisposal	age pumps						Lifting units / package pump stations																		$\left  - \right $		+-	$\vdash$	_
Dewatering	aina			_			fting				T						+						+	+			+		
Descaling units	Drain						15																						
District heating		_		+	$\downarrow$				$\square$	$\square$							$\square$				$\square$		+	$\perp$	$\square$			$\square$	
Solids transport Fire-fighting systems	-	-		+	-	$\vdash$		-			-+	_	+	+	_	_	$\left  \right $	_	-	-			_	-	$\left  \right $		-	$\vdash$	_
Geothermal energy		+	+	+	+	$\vdash$		-			+	+	+	+	+	+	+			+	$\square$		+	+	$\left  \right $		+		
Drawdown of groundwater levels																													
Maintenance of groundwater levels					_			_			$\rightarrow$			_		_							_				_		
Domestic water supply Flood control / coast protection (stormwater)	-	+		-	+	-		-			-+	_	_	_	_	_	+		-	+			_	_				$\vdash$	_
How control / coast protection (stormwater)		$\neg$		+	+	┢					$\rightarrow$			┼		+	+			+	-		+	+			+-		
Industrial recirculation systems																													
Nuclear power stations				_	-	-		<u> </u>			$\rightarrow$			_		_				_				_			_	-	_
Boiler feed applications Boiler recirculation		+		-	+	$\vdash$			-		$\rightarrow$	_	-		-	_	+	-		+-	-			-			-	$\vdash$	_
Waste water treatment plants				1	+	$\vdash$							+			+							-	1			-		
Air-conditioning systems																													
Condensate transport Cooling circuits		$\dashv$		_				-				_	_	_	_	_	$\left  \right $	_	-	_				_			_	$\vdash$	
Paint shops	-	+		+	+	$\vdash$					$\rightarrow$		+	+	+	+	+			+			+	+-			+	$\left  \right $	
Food and beverage industry																													
Seawater desalination / reverse osmosis					_									_		_				_							_		
Mixing Offshore platforms		+	_	-	-	$\vdash$		-			_	_	+	+	_	_	+		-	_			_	_	$\left  \right $	_	_	$\vdash$	_
Paper and pulp industry		+				$\vdash$					$\rightarrow$		+	+		+	+							-			+		
Petrochemical industry																													
Pharmaceutical industry			_	_	_	_		_			_			_		_				_			_	_			_	$\left  - \right $	_
Pipelines and tank farms Refineries		+		-	+	-		-				_	-	+	-	_	+		-	+	-			-			-	$\vdash$	
Flue gas desulphurisation				1	1	$\square$								+						+							+-		
Rainwater harvesting																												$\square$	
Cleaning of stormwater tanks / storage sewers Recirculation		+		-	-	-						_	_	_	_	_		_					_	-			-	$\vdash$	
Dredging		$\neg$		+	+	┢					$\rightarrow$			┼		+	+			+	-		+	+			+-		
Shipbuilding																													
Sludge disposal										$\square$																			
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Heavy oil and coal upgrading		+	+	+	+	$\vdash$					$\dashv$	+	+	+	+	+	+	-		+			+	+	+	+	+	$\vdash$	
Swimming pools																													
Solar thermal energy systems		_	_[	1	+					$\square$	-		-				$\mid \downarrow \downarrow$				$\square$	$\dashv \downarrow$			$\square$			$\mid \downarrow \downarrow$	
Fountains Keeping in suspension		+		+	+	$\vdash$		-		$\left  - \right $	+	+	+	+	+	+	+			+	$\vdash$	+	+	+-	$\left  \right $	_	+-	$\vdash$	_
Thermal oil circulation			+	+	+						+		+	+	+	+	+			+			+	+	$\left  \right $	+	+		
Draining of pits, shafts, etc.																													
Process engineering			_	+	-	-		-		$\left  - \right $	_	_	-	-	_	_	$\left  \right $			_			_	_	$\left  \right $		-	$\vdash$	_
Heat recovery systems Hot-water heating systems		+	+	+	+	-		-		$\left  - \right $	-+	+	+	+	+	+	+	_		+	$\vdash$		+	+	$\left  \right $		+	$\vdash$	_
Washing plants						Ĺ																							
Water treatment	ł			_																								$\square$	
Water extraction						-		-			-+	_	-	+	_	_	$\left  \right $						_	_			_	$\vdash$	
Water supply Sugar industry		+	-	+	+-	$\vdash$					+	+	+	+	-		+	_	ŀ				+	+	+	-+	+	$\vdash$	_
						1											1											<u> </u>	

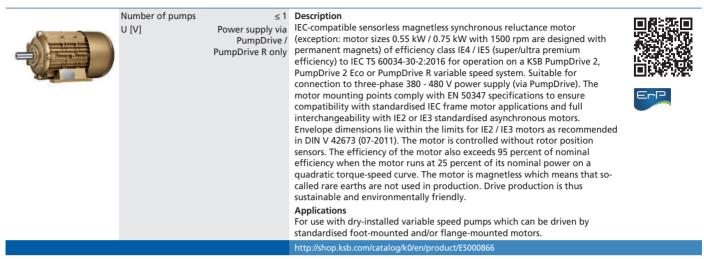
	Amacan K		Amacan S		Amamix	Amaline		Sewatec	Sewatec SPN	Sewabloc	KWP	KWP-Bloc		WBC	LSA-S	LCC-R	TBC	LCV	FGD	UHN	MDX	ZW	HVF		Etaprime L	Etaprime B	EZ B/L	AU	AU Monobloc	
Aquaculture	es			units			fluids						nps											sdu	$\square$		$\square$	$\square$		$\square$
Spray irrigation Mining	discharge tubes	-		in 6	+	_	n flu	-		_			Slurry pumps											Self-priming pumps			+	+	_	+
General irrigation	arg			anir	+		ade						urry				-					-		ning	+	+	+		+	+
Chemical industry	disch			agitators / tank cleaning			solids-laden						S											-prin						
Dock facilities	s in			tan			or so	-				_	-		_	_					_			Self	_	_	$\downarrow$	_	_	_
Drainage Pressure boosting	Submersible pumps in	+	-	ors /	+	_	Pumps for					-	-	_	+	+-	$\vdash$		+	_	+	-		-						+
Sludge thickening	le pi	+		gitat		+	nm	_						+	+	+-	┢			_		-			+	+	-	+	+	+
Disposal	ersib			$\sim$																										
Dewatering	pme			Mixers																										
Descaling units		-		Ξ		_	_	_				-	-						!		-			-	$\dashv$	$\rightarrow$	$\rightarrow$	$\rightarrow$	_	_
District heating Solids transport			-	-	+	_	-						-											-	$\dashv$	+	+	+	_	+
Geothermal energy		-	-		+				$\vdash$			-				-							$\vdash$		+	+	+	+	+	+
Fire-fighting systems																											_			
Drawdown of groundwater levels																														
Maintenance of groundwater levels		-				_		_					-	_	_	_	_		_	_	_	_		-	_	_	$\rightarrow$	_	_	_
Domestic water supply Flood control / coast protection (stormwater)			-		+	_	-					_	-	-+	+	+-	+		-	_	-	-		-			+			+
Homogenisation		+				+							-	+	+	+	+		+		+-	+			+	+	+	+		+
Industrial recirculation systems					_																									
Nuclear power stations																														
Boiler feed applications		_				_						_		_	_	_	_		_	_	_	_		-	$\rightarrow$	-		$\rightarrow$	_	+
Boiler recirculation Waste water treatment plants			-				-						-		_	_	-		_			-		-			-			+
Air-conditioning systems		-	-					-		-	-	-	-		+	+	-		+	-	-	-					+	-	-	+
Condensate transport															1	1									7	_	+	+		+
Cooling circuits																														
Paint shops		_				_		_						_	_	_	_		_	_	_	_		-	_	-		_	_	+
Food and beverage industry Seawater desalination / reverse osmosis				-	+	_	-				-	-							_	_	_	-					+	-		+
Mixing		+-	-	-							-		-	+	+	+-	+		+		+	+			+	+	+	+	+	+
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Offshore platforms																									1									_
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## Drive, variable speed system and monitoring

#### **KSB SuPremE**



#### **KSB UMA-S**

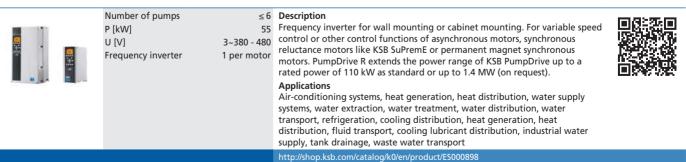
1.06.1	Number of pumps U [V] Other mains voltages on request	Description Permanent-magnet submersible synchronous motor, for operation on a KSB PumpDrive R variable speed system. NEMA connections and identical outside diameters ensure full interchangeability with comparable 6-inch or 8-inch asynchronous motors. The motor is controlled without rotor position sensors. The motor efficiency is 5 - 12 % above that of asynchronous motors. Given the design and functionality the use of permanent magnets is essential. Applications Exclusively for submersible borehole pumps in the range of 4 to 150 kW.
		http://shop.ksb.com/catalog/k0/en/product/ES000003

#### PumpDrive 2 / PumpDrive 2 Eco

	of analog standard signals, a field bus or the control nanel. As PumpDrive is
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#### http://shop.ksb.com/catalog/k0/en/product/ES000911

#### **PumpDrive R**



## PumpMeter

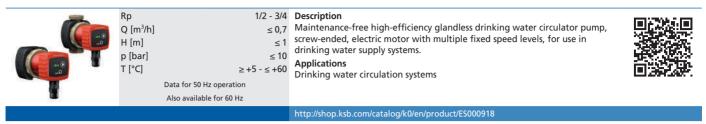
Number of pumps ≤ U [V DC] 24	<ul> <li>Description</li> <li>Device for monitoring the operation of one pump. It is an intelligent pressure transmitter for pumps, with on-site display of measured values and operating data. It records the load profile of the pump in order to indicate any potential for optimising energy efficiency and availability. The device comprises two pressure sensors and a display unit. PumpMeter is supplied completely assembled and parameterised for the pump it is used with. It is ready for operation as soon as the M12 plug connector is plugged in.</li> <li>Applications</li> <li>Air-conditioning systems, cooling circuits, cooling lubricant distribution, heating systems, water transport systems, water extraction systems</li> </ul>
	http://shop.ksb.com/catalog/k0/en/product/ES000807

## KSB Guard

Number of pumps U [V AC] U [V DC]	≤ 20 (per gateway) 110 - 240 (gateway) 2 x 1,5 (sensor)	System for monitoring the condition of pumps: Sensors on the pump record vibration and temperature data, which is processed in the KSB Cloud.	
		http://shop.ksb.com/catalog/k0/en/product/ES000938	

## Drinking water circulators, fixed speed

## Calio-Therm S NC/NCV



## **Calio-Therm NC**

Rp Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤7 ≤10	drinking water supply systems and hot water supply systems. Applications Drinking water supply systems, hot water supply systems and similar systems in industry and building services (e.g. cooling water recirculation)
		http://shop.ksb.com/catalog/k0/en/product/ES000928

## Drinking water circulators, variable speed

#### **Calio-Therm S**



## Circulators, variable speed

## Calio S

	≤ 3,5 ≤ 6 ≤ 10	Heating, ventilation, air-conditioning and neat recovery systems, cooling	
		http://shop.ksb.com/catalog/k0/en/product/ES000910	

#### Calio

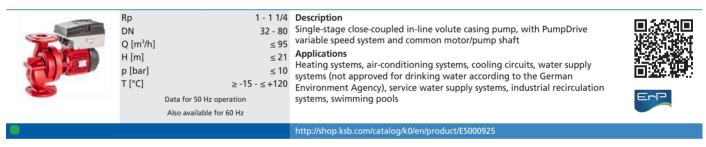
Rp DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	Applications Heating, ventilation, air-conditioning and heat recovery systems, cooling systems, industrial recirculation systems
	http://shap.ksh.com/catalog/k0/ep/product/ES000881

#### Calio Z

Rp DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	$\begin{array}{c} 1 \ 1/4 \\ 32 \ - \ 65 \\ \leq \ 70 \\ \leq \ 18 \\ \leq \ 16 \\ \geq \ -10 \ - \ \leq \ +110 \\ \leq \ 4500 \end{array}$ Data for 50 Hz operation Also available for 60 Hz	Maintenance-free high-efficiency flanged or screw-ended glandless pump in twin pump design with high-efficiency electric motor and continuously variable differential pressure control. Applications Heating, ventilation, air-conditioning and heat recovery systems, cooling systems, industrial recirculation systems	
		http://shop.ksb.com/catalog/k0/en/product/ES000913	

## In-line pumps

#### **Etaline L**



## **Etaline DL**

Rp DN Q [m³/h] H [m] p [bar] T [°C]	≤ 150	Single-stage close-coupled in-line volute casing pump as twin pump, with	
		http://shop.ksb.com/catalog/k0/en/product/ES000926	

#### **Etaline**

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 700 ≤ 96 ≤ 16	KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system; pump shaft and motor shaft are rigidly connected. With KSB SuPremE, a magnetless synchronous reluctance motor (exception: motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets) of efficiency class IE4/IE5 to IEC TS 60034-30-2: 2016, for operation on a KSB PumpDrive 2 or KSB PumpDrive 2 Eco variable speed system without rotor position sensors. Motor mounting points in accordance with EN 50347, envelope dimensions in accordance with DIN V 42673 (07-2011). ATEX-compliant version available. <b>Applications</b> Hot water heating, cooling circuits, air-conditioning, water supply systems, service water supply systems, industrial recirculation systems	
		http://shop.ksb.com/catalog/k0/en/product/ES000113	

## Etaline Z

DN Q [m³/h] H [m] p [bar] T [°C]	< 1095	variable speed system; pump shaft and motor shaft are rigidly connected. An M12 module (accessory) enables redundant operation of Etaline Z without the need for a higher-level controller. With KSB SuPremE, a magnetless synchronous reluctance motor (exception: motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets) of efficiency class IE4/IE5 to IEC TS 60034-30-2: 2016, for operation on a KSB PumpDrive 2 or KSB PumpDrive 2 Eco variable speed system without rotor position sensors. Motor mounting points in accordance with EN 50347, envelope dimensions in accordance with DIN V 42673 (07-2011). ATEX-compliant version available. <b>Applications</b> Hot water heating, cooling circuits, air-conditioning, water supply systems, service water supply systems, industrial recirculation systems	
		http://shop.ksb.com/catalog/k0/en/product/ES000114	

## **Etaline-R**

H F	DN Q [m³/h] Η [m] ρ [bar] Τ [°C]	< 1900		
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http://shop.ksb.com/catalog/k0/en/product/ES000812

#### ILN

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 3100	Applications Hot-water heating systems, cooling circuits, air-conditioning systems, marine applications, water and service water supply systems, cleaning systems and industrial recirculation systems
Control unit			http://shap.ksh.com/catalog/k0/ep/product/ES000730

Control unit

## ILNC

	≤ 370	Applications
Control unit		http://shop.ksb.com/catalog/k0/en/product/ES000731

## Megaline

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 600	curved vanes, single mechanical seal to EN 12756.	
		http://www.ksb.com.br/ksb-br-pt/pesquisa.php?_q=megaline	

# Standardised / close-coupled pumps

## Etanorm

http://shop.ksb.com/catalog/k0/en/product/ES000062	H P	) [m³/h] I [m] I [bar] I [°C]	≤ 640 < 160	shaft sleeves / shaft protecting sleeves and casing wear rings, with motor- mounted variable speed system. With KSB SuPremE, a magnetless synchronous reluctance motor (exception: motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets) of efficiency class IE4/IE5 to IEC TS 60034-30-2: 2016, for operation on a KSB PumpDrive 2 or KSB PumpDrive 2 Eco variable speed system without rotor position sensors. Motor mounting points in accordance with EN 50347, envelope dimensions in accordance with DIN V 42673 (07-2011). ATEX-compliant version available. <b>Applications</b> Pumping clean or aggressive liquids not chemically or mechanically aggressive to the pump materials in water supply systems, cooling water circuits, swimming pools, fire-fighting systems, irrigation systems, drainage systems, heating systems, air-conditioning systems, spray irrigation systems	
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## Etanorm-R

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 1900	Horizontal long-coupled single-stage (two-stage for pump size 125-500) volute casing pump in back pull-out design, with replaceable shaft sleeves / shaft protecting sleeves and casing wear rings, with magnetless KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system; ATEX- compliant version available. <b>Applications</b> Water supply systems, spray irrigation systems, drainage systems, air- conditioning systems, fire-fighting systems, general irrigation systems, heating systems	
		http://shop.ksb.com/catalog/k0/en/product/ES000058	

#### Etabloc

to the pump materials in water supply systems, cooling circuits, swimming pools, fire-fighting systems, irrigation systems, drainage systems, heating systems, air-conditioning systems, spray irrigation systems http://shop.ksb.com/catalog/k0/en/product/E5000107	with EN 50347, envelope dimensions in accordance with DIN V 42673 (07-2011). ATEX-compliant version available. Applications	Data for 50 Hz operation operation on a KSB PumpDrive 2 or KSB PumpDrive 2 Eco variable speed	(exception: motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with	p Ibard speed system. With KSB SuPremE, a magnetless synchronous reluctance motor	a provide the standard sector and sector provide the standard sector is a sector of the standard sector sector of the standard sector of the standard sector of the standa		DN 25 - 150 Description		DN Q [m³/h] H [m] p [bar] T [°C]	$\leq 660 \\ \leq 140 \\ \leq 16 \\ \geq -30 - \leq +140$ Data for 50 Hz operation	Single-stage close-coupled volute casing pump, with ratings to EN 733, with replaceable shaft sleeve and casing wear rings, with motor-mounted variable speed system. With KSB SuPremE, a magnetless synchronous reluctance motor (exception: motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets) of efficiency class IE4/IE5 to IEC TS 60034-30-2: 2016, for operation on a KSB PumpDrive 2 or KSB PumpDrive 2 Eco variable speed system without rotor position sensors. Motor mounting points in accordance with EN 50347, envelope dimensions in accordance with DIN V 42673 (07-2011). ATEX-compliant version available. <b>Applications</b> Pumping clean or aggressive liquids not chemically or mechanically aggressive to the pump materials in water supply systems, cooling circuits, swimming pools, fire-fighting systems, irrigation systems, drainage systems, heating systems, air-conditioning systems, spray irrigation systems	
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## Etachrom B

DN Q [m³/h] H [m] p [bar] T [°C]	mounted variable speed system. With KSB SuPremE, a magnetless synchronous reluctance motor (exception: motor sizes 0.55 kW / 0.75 kW with	
	Cleaning systems (bottle rinsing, crate washing, etc.), water treatment plants, water supply systems, fire-fighting systems, spray irrigation systems, general irrigation systems, drainage systems, hot-water heating systems, air- conditioning systems, industrial washing plants, general industry, disposal of paint sludge, surface treatment	
	http://shop.ksb.com/catalog/k0/en/product/ES000066	

## Etachrom L

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C]	$25 - 80$ $\leq 260$ $\leq 105$ $\leq 12$ $\geq -30 - \leq +110$ Data for 50 Hz operation Also available for 60 Hz	dimensions to EN 733, with replaceable casing wear rings and motor-mounted variable speed system. With KSB SuPremE, a magnetless synchronous reluctance motor (exception: motor sizes 0.55 kW / 0.75 kW with 1500 rpm are	
		http://shop.ksh.com/catalog/k0/ep/product/ES000065	

#### **Etanorm V**

http://shop.ksb.com/catalog/k0/en/product/ES000015			≤ 625	<ul> <li>Description</li> <li>Single-stage volute casing pump for vertical installation in closed tanks under atmospheric pressure, with ratings to EN 733. Suitable for immersion depths of up to 2000 mm.</li> <li>Applications</li> <li>Phosphating solutions, lubricating oil supply and sealing oil supply for turbines, generators, large compressors, large gear units</li> </ul>	
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#### Meganorm

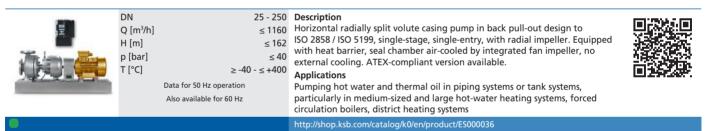
DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz or Also available for	$\leq 1160$ $\leq 162$ $\leq 16$ $\geq -30 - \leq +140$ peration or 60 Hz	Description Horizontal radially split volute casing pump in back pull-out design, with radial impeller, single-entry, single-stage, to DIN EN ISO 2858/ISO 5199. Available with cylindrical or conical shaft seal chamber. Applications Water supply systems, dewatering systems, irrigation systems, sugar industry, alcohol industry, air-conditioning systems, building services systems, fire- fighting systems	
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#### Megabloc

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 550 < 140	(optional), replaceable casing wear rings. Volute casing with closed radial impeller with multiply curved vanes, single mechanical seal to EN 12756.	
		http://www.ksb.com.br/ksb-br-pt/pesquisa.php?_q=Megabloc	

## Hot water pumps

HPK-L



#### HPK

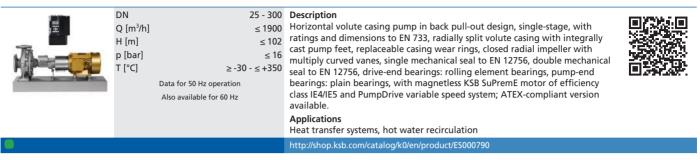
DN Q [m³/h] H [m] p [bar] T [°C]	TRD type testing by TÜV. ATEX-compliant version available.
	http://shap.ksh.com/catalog/k0/en/product/ES000034

#### HPH

DN Q [m³/h] H [m] p [bar] T [°C]	< 2350	Description Horizontal radially split volute casing pump in back pull-out design, with centreline pump feet, with radial impeller, single-entry, single-stage. Optional TRD type testing by TÜV. ATEX-compliant version available. Applications Pumping hot water in high-pressure hot water generation plants, as boiler feed or recirculation pump.
		http://shop.ksb.com/catalog/k0/en/product/ES000037

## Hot water / thermal oil pumps

#### **Etanorm SYT / RSY**



#### **Etabloc SYT**

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 280 < 68	ball bearing, product-fubricated carbon plan bearing, grease-fubricated radia ball bearing in the motor housing, with magnetless KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system, ATEX-compliant version available. Applications Heat transfer systems, hot water recirculation	
		http://shop.ksb.com/catalog/k0/en/product/ES000791	

## **Etaline SYT**

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 316 < 69	system; pump shaft and motor shaft are rigidly connected. ATEX-compliant version available. <b>Applications</b> Heat transfer systems, hot water recirculation	
		http://shop.ksb.com/catalog/k0/en/product/ES000789	

## Standardised chemical pumps

#### MegaCPK

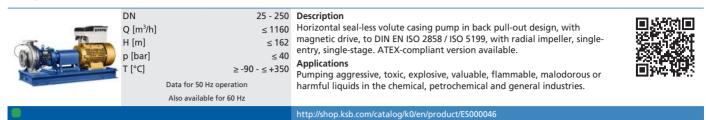
Suit.	DN Q [m³/h] H [m] p [bar] T [°C]	6.55 KW 70.75 KW with 1500 rpm are designed with permanent magnets) of efficiency class IE4/IE5 to IEC TS 60034-30-2: 2016, for operation on a KSB PumpDrive 2 or KSB PumpDrive 2 Eco variable speed system without rotor position sensors. Motor mounting points in accordance with EN 50347, envelope dimensions in accordance with DIN V 42673 (07-2011). ATEX- compliant version available. <b>Applications</b> Pumping aggressive, toxic, explosive, valuable, flammable, malodorous or harmful liquids in the chemical and petrochemical industries, in refineries, power stations and desalination plants as well as in the food industry and general industry.	
		http://shop.ksb.com/catalog/k0/en/product/ES000861	

### **CPKN**

	DN	150 - 400	Description	
<b>1</b>	Q [m³/h] H [m] p [bar] T [°C]	- 4150	Horizontal radially split volute casing pump in back pull-out design, with radial impeller, single-entry, single-stage, to ISO 2858 / ISO 5199. Also available as a variant with "wet" shaft, conical seal chamber and/or semi- open impeller (CPKNO). ATEX-compliant version available.	
			http://shop.ksb.com/catalog/k0/en/product/ES000027	

## Seal-less pumps

### Magnochem



### Magnochem 685

	DN Q [m³/h] H [m] p [bar] T [°C]	≤ 1160	<b>Description</b> Horizontal seal-less volute casing pump, with magnetic drive, radial impeller, single-entry, single-stage. Design to ISO 15783 / API 685 (centreline mounting, ASME flanges, and twice the permissible nozzle forces). ATEX-compliant version available. <b>Applications</b> Pumping aggressive, toxic, explosive, valuable, flammable, malodorous or harmful liquids in the chemical, petrochemical and general industries.
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### Magnochem-Bloc

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 625 ≤ 162 < 40	single-entry, single-stage. ATEX-compliant version available.
		http://shop.ksb.com/catalog/k0/en/product/ES000045

#### Etaseco / Etaseco-I

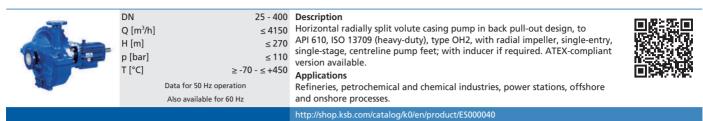
<b>1</b>	DN Q [m³/h] H [m] p [bar] T [°C]	≤ 250 < 100	line design.
			http://shop.ksb.com/catalog/k0/en/product/ES000122

#### **Etaseco RVP**

0	DN Q [m³/h] H [m] p [bar] T [°C]	25 - 40 $\leq 44$ $\leq 40$ $\leq 16$ $\geq -50 - \leq +110$ Data for 50 Hz operation Also available for 60 Hz	Horizontal or vertical seal-less volute casing pump in back pull-out design with fully enclosed canned motor, low noise emission, with radial impeller, single-stage, single-entry, casing connecting dimensions to EN 733, or in in- line design. Applications Pumping toxic, volatile or valuable liquids in environmental engineering and industrial applications and as coolant pump in cooling systems. Transport vehicles, environmental engineering and industry; applications where low noise emission, smooth running or long service intervals are required.	
			http://shop.ksb.com/catalog/k0/en/product/ES000122	

### **Process pumps**

RPH



#### **RPH-LF**

DN Q [m³/h] H [m] T [°C]	(ISO 13709) type OH2 Special design for low flow rates ATEX-compliant	
	http://shop.ksb.com/catalog/k0/en/product/ES000945	

#### **RPHb / RPHd**

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 4500	compliant version available.	
		http://shap.ksh.com/satalog/k0/ap/product/ES000041	

#### **RPH-V**

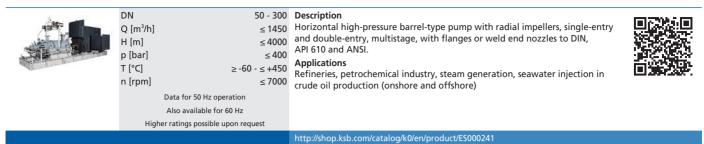
	< 160	Vertical radially split volute casing pump to API 610 and ISO 13709 (heavy- duty), type VS4, with radial impeller, single-entry, single-stage. <b>Applications</b> Refineries, petrochemical and chemical industries, offshore and onshore processes.	
		http://shop.ksb.com/catalog/k0/en/product/ES000880	

CTN

DN Q [m³/h] H [m] p [bar] T [°C]	$\begin{array}{l} 25-250/250-400\\ \leq 950\\ \leq 115\\ \leq 16\\ \geq 0-\leq +300\\ \end{array}$ Data for 50 Hz operation Also available for 60 Hz	Radially split vertical shaft submersible pump with double volute casing for wet and dry installation, with radial impeller, single-entry, single-stage or two-stage; heatable model available. ATEX-compliant version available.
		http://shop.ksb.com/catalog/k0/en/product/ES000014

### CHTR

Pumps



#### **CHTR**a

DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 1200 ≤ 1550 ≤ 155 ≥ -40 - ≤ +205	(ISO 13709), type BB3. First stage optionally available in double-entry design for low NPSH requirements. ATEX-compliant version available.
		http://shop.ksb.com/catalog/k0/en/product/ES000933

### **CINCP / CINCN**

ļ	$Q [m^3/h]$ ≤ 78 H [m] ≤ 10 p [bar] ≤ 1	<ul> <li>bearings in the upper section of the pump set. Supplied with discharge pipe extending above the baseplate (CINCP) or without discharge pipe (CINCN).</li> <li>ATEX-compliant version available.</li> </ul>
		http://shop.ksb.com/catalog/k0/en/product/ES000718

#### INVCP

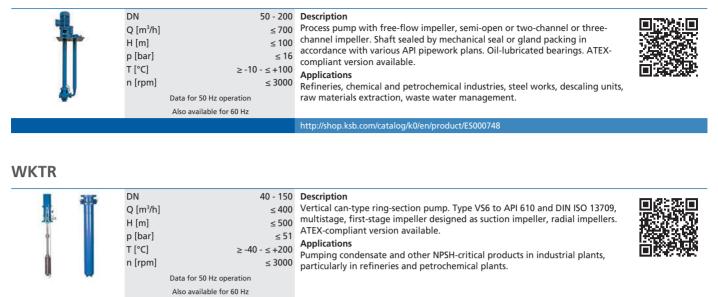
-tt	$\begin{array}{c c} {\sf DN} & & 32 - 300 \\ {\sf Q} \; [m^3/h] & \leq 1600 \\ {\sf H} \; [m] & \leq 116 \\ {\sf p} \; [bar] & \leq 10 \\ {\sf T} \; [^\circ {\sf C}] & \geq -10 - \leq +100 \\ {\sf n} \; [rpm] & \leq 3000 \\ \\ & \\ {\sf Data \; for \; 50 \; Hz \; operation} \\ {\sf Also \; available \; for \; 60 \; Hz} \end{array}$	Vertical immersion pump for wet or dry installation, available with closed or semi-open impeller. Supplied with discharge pipe extending above the baseplate (INVCP) or without discharge pipe (INVCN). ATEX-compliant version available. Applications	
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#### http://shop.ksb.com/catalog/k0/en/product/ES000737

### **Estigia**

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	< 1160	Vertical immersion pump for wet installation with closed impeller, to DIN EN ISO 5199 (with comments). Supplied with discharge pipe extending above the cover plate, DN according to nominal flow rate. Sealing by lip seal, single or double cartridge mechanical seal. ATEX-compliant version available.
KSB SuPremE, PumpDrive, Frequency inverter			http://shop.ksb.com/catalog/k0/en/product/ES000937

#### **RWCP / RWCN**



http://shop.ksb.com/catalog/k0/en/product/ES000875

41

## **Rainwater harvesting systems**

### Hya-Rain / Hya-Rain N



### Hya-Rain Eco

Rp Q [m³/h] H [m] p [bar] T [°C]	1 ≤ 4 ≤ 43 ≤ 6 ≥ 0 - ≤ +35 Data for 50 Hz operation	Description Basic ready-to-connect package rainwater harvesting system with automatic mains water back-up function if the rainwater storage tank is empty, with integrated dry running protection and demand-driven automatic pump control. Applications Rainwater harvesting and service water harvesting, general irrigation and spray irrigation systems.	
		http://shop.ksb.com/catalog/k0/en/product/ES000600	

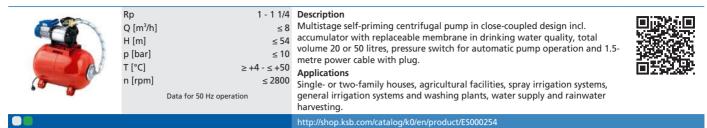
## Domestic water supply / swimming pool pumps

### Multi Eco



Rp Q [m³/h] H [m] p [bar] T [°C] n [rpm]	$\begin{array}{l} 1 - 1 \ 1/4 \\ \leq 8 \\ \leq 54 \\ \leq 10 \\ \geq +4 - \leq +50 \\ \leq 2800 \end{array}$ Data for 50 Hz operation	Multistage self-priming centrifugal pump in close-coupled design, with power cable, plug and Controlmatic E automatic control unit starting and stopping the pump in line with consumer demand and protecting it against dry running. Automated with automatic control unit.	
		http://shop.ksb.com/catalog/k0/en/product/ES000253	

### Multi Eco-Top



#### Ixo N

J	Rp Q [m <sup>3</sup> /h] H [m] T [°C] n [rpm]	Multistage close-coupled centrifugal pump for fully or partly submerged operation (min. immersion depth 0.1 m), with low-level inlet, suction strainer with a max. mesh width of 2.0 mm.	
Control unit, Cervomatic		http://shop.ksb.com/catalog/k0/en/product/ES000007	

#### Ixo-Pro

Rp Q [m³/h] H [m] T [°C]	≤ 3,9	<b>Description</b> Multistage submersible borehole pump with integrated pressure switch, flow sensor and lift check valve. Electronic dry running protection with four consecutive start-up attempts; integrated capacitor. 15-metre H07 RN-F power cable with shockproof plug included. <b>Applications</b> Rainwater harvesting, pressure boosting, water extraction, irrigation systems	
		http://shop.ksb.com/catalog/k0/en/product/ES000896	

#### Filtra N

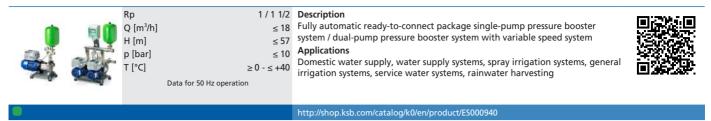
Rp Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [rpm] Dat	≤ 36 ≤ 21 ≤ 2,5	<b>Description</b> Single-stage self-priming centrifugal pump in close-coupled design. <b>Applications</b> Pumping clean or slightly contaminated water, swimming pool water with a max. chlorine content of 0.3 %; ozonised swimming pool water with a max. salt content of 7 ‰.	
		http://shop.ksb.com/catalog/k0/en/product/ES000090	

## Pressure booster systems

### KSB Delta Macro F/VC/SVP

Rp Q [m³/h] H [m] p [bar] T [°C]	1 1/2 ≤ 960 ≤ 155 ≤ 16 ≥ 0 - ≤ +60 Data for 50 Hz operation	Fully automatic package pressure booster system with two to six vertical high- pressure pumps; available in cascade-controlled and two variable speed versions. Cascade control (F) for ensuring the required supply pressure. The VC and SVP versions ensure variable speed control of each pump by cabinet- mounted frequency inverter (VC) or motor-mounted PumpDrive variable speed system and KSB SuPremE motor (SVP), respectively, providing fully electronic control to ensure the required supply pressure. Automated with BoosterControl. Applications Pressure boosting in residential buildings, hospitals, office buildings, hotels, department stores, industry, etc.	
		http://shop.ksb.com/catalog/k0/en/product/ES000978	

### KSB Delta Solo/Basic Compact MVP



### KSB Delta Basic MVP/SVP

Rp Q [m³/h] H [m] p [bar] T [°C]	- 124	Fully automatic pressure booster system with two to three (MVP) / four (SVP) vertical high-pressure pumps in two variable speed versions. The frequency inverter operated MVP and SVP versions ensure variable speed control of each pump by motor-mounted frequency inverter for asynchronous motors (MVP)
		http://shop.ksb.com/catalog/k0/en/product/ES000942

### KSB Delta Primo F/VC/SVP

		•	two variable speed versions. Cascade control (F) for ensuring the required supply pressure. The frequency inverter operated VC and SVP versions ensure	
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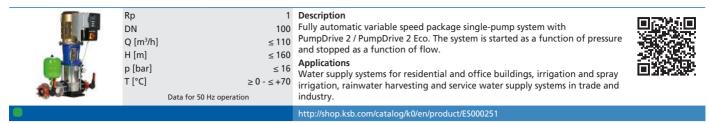
### KSB Delta Solo MVP/SVP

		$\left[ \begin{array}{cc} m^{3}/h \end{array} \right] \leq 76$ H [m] $\leq 134$ p [bar] $\leq 16$ T [°C] $\geq 0 - \leq +60$ Data for 50 Hz operation	Fully automatic single-pump system available in two variable speed versions. The frequency inverter operated MVP and SVP versions ensure variable speed
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### Hya-Solo D

Rp DN Q [m³/h] H [m] p [bar] T [°C]	$\begin{array}{c} 1\\ 100\\ \leq 110\\ \leq 160\\ \leq 16\\ \geq 0 - \leq +70\\ \end{array}$ Data for 50 Hz operation	accumulator. The system is started and stopped as a function of pressure. Applications Water supply systems for residential and office buildings, irrigation and spray irrigation, rainwater harvesting and service water supply systems in trade and	
		http://shop.ksb.com/catalog/k0/en/product/ES000250	

### Hya-Solo DSV



### Hya-Solo D FL

Rp DN Q [m³/h] H [m] p [bar] T [°C]	100	Fire fighting systems to DIN 14462	
		http://shop.ksb.com/catalog/k0/en/product/ES000709	

### Hya-Duo D FL

- F	DIN 14462. Applications Fire-fighting systems to DIN 14462
	http://shop.ksb.com/catalog/k0/en/product/ES000710

### Hya-Solo D FL Compact

DN Q [m³/h] H [m] p [bar] T [°C]	started and stopped as a function of pressure. Design and function as per DIN 14462.
	http://shop.ksb.com/catalog/k0/en/product/ES000821

### Hya-Duo D FL Compact

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 48 < 160	pressure. Design and function as per DIN 14462.
		http://shop.ksb.com/catalog/k0/en/product/ES000820

### Hyamat K

Pumps

Q $[m^3/h]$ $\leq 660$ H $[m]$ $\leq 160$ p $[bar]$ $\leq 16$	near we with walt free shanneaver contact for general fault indication and
	http://shop.ksb.com/catalog/k0/en/product/ES000247

## Hyamat V

Rp DN Q [m³/h] H [m] p [bar] T [°C]	250 ≤ 660 ≤ 160 ≤ 16	<b>Description</b> Fully automatic package pressure booster system with 2 to 6 vertical high- pressure pumps and continuously variable speed adjustment of one pump; for fully electronic control of the required supply pressure. Design and function as per DIN 1988. Automated with BoosterControl. <b>Applications</b> Pressure boosting in residential buildings, hospitals, office buildings, hotels, department stores, industry, etc.	
		http://shop.ksb.com/catalog/k0/en/product/ES000417	

### Hyamat SVP

Rp DN Q [m³/h] H [m] p [bar] T [°C]	250 ≤ 660 ≤ 160 ≤ 16	PumpDrive; for fully electronic control of the required supply pressure. Design and function as per DIN 1988. Automated with BoosterControl and
		http://shop.ksb.com/catalog/k0/en/product/ES000418

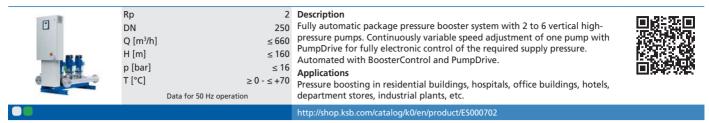
### Hyamat SVP ECO

Rp DN Q [m³/h] H [m] p [bar] T [°C]	250 ≤ 660 ≤ 160 ≤ 16	PumpDrive; for fully electronic control of the required supply pressure. Design and function as per DIN 1988. Automated with PumpDrive.
		http://shop.ksb.com/catalog/k0/en/product/ES000935

### Surpresschrom SIC.2

p [bar]	250 ≤ 660 ≤ 160 ≤ 16	Description Fully automatic package pressure booster system with 2 to 6 vertical high- pressure pumps, with fully electronic control system ensuring the required supply pressure, with volt-free changeover contact for general fault indication and broken wire detection (live-zero) of the connected sensors. Automated with BoosterControl. Applications Pressure boosting in residential buildings, hospitals, office buildings, hotels, department stores, industrial plants, etc.	
		http://shop.ksb.com/catalog/k0/en/product/ES000439	

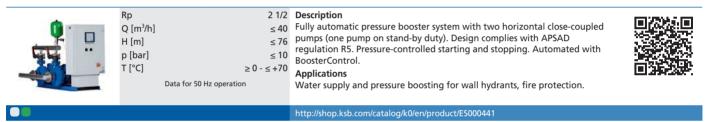
### Surpresschrom SIC.2 V



### Surpresschrom SIC.2 SVP

Rp DN Q [m³/h] H [m] p [bar] T [°C]	250 ≤ 660 ≤ 160 ≤ 16	PumpDrive for fully electronic control of the required supply pressure. Automated with BoosterControl and PumpDrive.	
		http://shop.ksb.com/catalog/k0/en/product/ES000701	

### **Surpress Feu SFE**



## Drainage pumps / waste water pumps

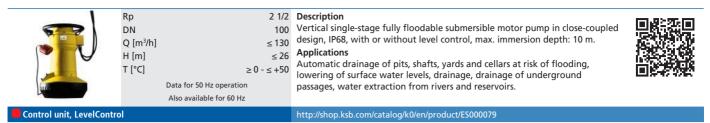
### Ama-Drainer N

1111	Rp Q [m³/h] H [m] T [℃]	< 16.5	A	
Control unit, LevelContro	bl		http://shop.ksb.com/catalog/k0/en/product/ES000771	

#### Ama-Drainer 4../5..

	Rp Q [m³/h] H [m] T [°C]	< 50	<b>Description</b> Vertical single-stage fully floodable submersible motor pump in close-coupled design, IP68, with or without level control, max. immersion depth: 7 m. <b>Applications</b> Automatic drainage of pits, shafts, yards and cellars at risk of flooding, lowering of surface water levels, drainage, drainage of underground passages, water extraction from rivers and reservoirs.	
Control unit, LevelContr	ol		http://shop.ksb.com/catalog/k0/en/product/ES000078	

### Ama-Drainer 80, 100



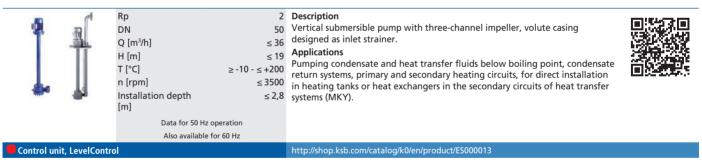
### Ama-Porter F / S

	DN Q [m³/h] H [m] T [°C]	≤ 40 < 16	<ul> <li>Description</li> <li>Vertical single-stage fully floodable submersible waste water pump in close-coupled design (grey cast iron variant), non-explosion-proof.</li> <li>Applications</li> <li>Handling waste water, especially waste water containing long fibres and solid substances, liquids containing gas/air, removing waste water from flooded rooms and surfaces.</li> </ul>
Control unit, LevelContro	ol		http://shop.ksb.com/catalog/k0/en/product/ES000082

#### Rotex

Q [m³/h] $\leq$ 24         H [m] $\leq$ 14         T [°C] $\geq$ 0 - $\leq$ +90         n [rpm] $\leq$ 2900	and motor are rigidly connected by a support column. Supplied ready to be plugged in, with 1.5-metre power cable and level switch.
	http://shop.ksb.com/catalog/k0/en/product/ES000012

### MK / MKY



## Lifting units / package pump stations

#### Amaclean

•	Ø [mm] DN Installation depth [m]	50 - 100	<b>Description</b> Self-cleaning tank insert for grouted installation in new concrete structures or in concrete structures in need of refurbishment. Designed to prevent soiling of the structure and clogging of the pumps by heavily waste or fibre loaded waste water. Suitable for pump stations emitting unpleasant odours and/or gases. <b>Applications</b> Waste water disposal, rainwater disposal	
			http://shop.ksb.com/catalog/k0/en/product/ES000936	

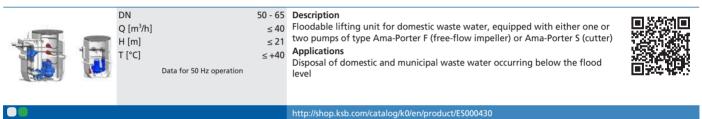
### **Ama-Drainer-Box Mini**



### Ama-Drainer-Box

12 12	10 22 u	DN Q [m³/h] H [m] T [°C]	:	< 46	<b>Description</b> Stable above-floor plastic collecting tank or impact-resistant underfloor plastic collecting tank, with floor drain and odour trap, both with Ama- Drainer submersible motor pump starting and stopping automatically and swing check valve <b>Applications</b> Automatic disposal of waste water from washbasins, showers, washing machines, garage driveways, basements and rooms prone to flooding	
					http://shop.ksb.com/catalog/k0/en/product/ES000262	

### **Evamatic-Box N**



### mini-Compacta

	KSB D.		:	≤ 36 ≤ 25 ≤ +40	Description Floodable single-pump sewage lifting unit or dual-pump sewage lifting unit for automatic disposal of domestic waste water and faeces in building sections below the flood level. Applications Basement flats, bars, basement party rooms, basement saunas, cinemas, theatres, department stores, hospitals, hotels, restaurants, schools.	
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### Compacta

 DN Q [m³/h] H [m] T [°C]	< 140	Applications Basement flats, bars, basement party rooms and saunas, cinemas and theatres, department stores and hospitals, hotels, restaurants, schools, other public buildings, industrial facilities, underground train stations or for joint sewage disposal from rows of houses.	
		http://shop.ksb.com/catalog/k0/en/product/ES000260	

### **CK 800 Pump Station**

DN Q [m³/h] H [m] T [°C] Data for 50 Hz operation	with PE-LLD (polyethylene) collecting tank for buried installation. Equipped with either one or two submersible waste water pumps of type Amarex N S (explosion-proof or non-explosion-proof) or Ama-Porter (non-explosion- proof). Tank design to DIN 1986-100 and EN 752/EN 476. Applications Drainage of buildings and premises, waste water disposal, premises renovation, joint sewage disposal for multiple residential units, pumped drainage	
	http://shop.ksb.com/catalog/k0/en/product/ES000778	

### **CK 1000 Pump Station**

-1.	DN Q [m³/h] H [m] T [°C]	with either one or two submersible waste water pumps of type Amarex N (explosion-proof or non-explosion-proof) or Ama-Porter (non-explosion- proof). Tank design to DIN 1986-100 and EN 752/EN 476. Applications Drainage of buildings and premises, waste water disposal, premises renovation, joint sewage disposal for multiple residential units, pumped drainage
		http://shop.ksb.com/catalog/k0/en/product/ES000266

### **Ama-Porter CK Pump Station**

DN Q [m³/h] H [m] T [°C]	with either one or two submersible waste water pumps of type Ama-Porter	
	http://shop.ksb.com/catalog/k0/en/product/ES000498	

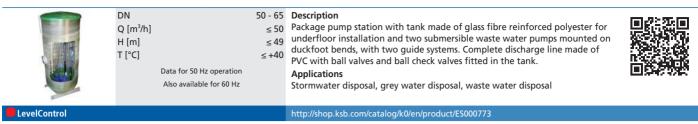
#### SRP

	DN Q [m³/h] H [m] T [°C]	≤ 500 < 7 <sup>1</sup>	Description Single-pump station or dual-pump station as ready-to-connect package system, with fibreglass collecting tank for buried installation Applications Premises renovation, disposal of domestic, municipal and industrial waste water, joint sewage disposal for multiple residential units
Control unit, LevelControl			http://shop.ksb.com/catalog/k0/en/product/ES000443

SRL

DN Q [m³/h] H [m] T [°C] Data	20 k/W integrated valves and a control unit with frequency invertors. Dump
	http://shop.ksb.com/catalog/k0/en/product/ES000856

### SRS



## Submersible motor pumps

#### Amarex

	DN Q [m³/h] H [m] T [°C]	≤ 320	<b>Description</b> Vertical single-stage submersible motor pump for wet installation, with free- flow impeller (F-max) or open dual-vane impeller (D-max), stationary or transportable version. Single-stage, single-entry close-coupled pump sets which are not self-priming. ATEX-compliant version available. <b>Applications</b> Waste water transport, waste water management, drainage systems, waste water treatment plants, stormwater transport, recirculation, sludge treatment	
Control unit, LevelControl			http://shop.ksb.com/catalog/k0/en/product/ES000979	

### **Amarex N**

	DN Q [m³/h] H [m] T [°C] Data for 50 Hz operatic Also available for 60 H	≤ 190 ≤ 49 ≤ +40	transportable version Amarox N numps are floodable single stage single	
Control unit, LevelContro			http://shop.ksb.com/catalog/k0/en/product/ES000507	

### **Amarex KRT**

	DN Q [m <sup>3</sup> /h] H [m] T [°C] n [rpm] Data for 50 Hz operation Also available for 60 Hz	≤ 10080 ≤ 120 ≤ +60 ≤ 2900	design, with various next-generation impeller types, for wet or dry installation, stationary or transportable version, with energy-saving motor and models for use in potentially explosive atmospheres.	
PumpDrive, Amacontrol,	LevelControl		http://shop.ksb.com/catalog/k0/en/product/ES000092	

## Submersible pumps in discharge tubes

### Amacan K

	$ \begin{array}{ll} Q \left[ m^{3} / h \right] & \leq 5 \\ H \left[ m \right] & \leq \\ T \left[ ^{\circ} C \right] & \geq 0 - \leq \cdot \\ \end{array} $	Applications Handling pre-cleaned chemically neutral waste water, industrial effluent and sewage, fluids not containing any stringy substances, pre-treated by screens or overflow sills; as waste water, mixed sewage and activated sludge pumps in waste water treatment plants, irrigation and drainage pumping stations.
Amacontrol		http://shop.ksb.com/catalog/k0/en/product/ES000100

### Amacan P

	DN Q [m³/h] H [m] T [°C] n [rpm]	version available. Applications Irrigation and drainage pumping stations, for stormwater transport in stormwater pumping stations, raw and clean water transport in water and waste water treatment plants, cooling water transport in power stations and industrial plants, industrial water supply, water pollution control and flood control, aquaculture.	
Amacontrol		http://shop.ksb.com/catalog/k0/en/product/ES000099	

Amacan S

	DN Q [m³/h] H [m] T [°C] n [rpm]	Applications
Amacontrol		http://shop.ksb.com/catalog/k0/en/product/ES000101

## Mixers / agitators / tank cleaning units

#### Amamix



### Amaprop

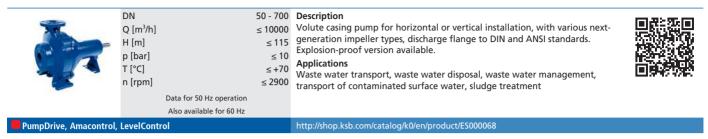
	 0 - ≤ +40	Description Horizontal submersible mixer with self-cleaning ECB propeller, close-coupled design, with coaxial spur gear drive. ATEX-compliant version available. Applications In environmental engineering, particularly in municipal and industrial waste water and sludge treatment, for circulating, keeping in suspension and inducing flow in nitrification tanks and denitrification tanks, activated sludge tanks, biological phosphate elimination tanks, flocculation tanks and sludge storage tanks	
Amacontrol		http://shop.ksb.com/catalog/k0/en/product/ES000271	

### Amaline

	DN Q [m³/h] H [m] T [°C] n [rpm]	≤ 6600	Applications
Amacontrol			http://shop.ksb.com/catalog/k0/en/product/ES000273

## Pumps for solids-laden fluids

#### **Sewatec**



#### **Sewatec SPN**

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation Also available for 60 Hz	≤ 32400 ≤ 115 ≤ 16 ≤ +70	<b>Description</b> Vertical volute casing pump with multi-channel impellers (K), discharge flange to DIN and ANSI standards. <b>Applications</b> Waste water transport, waste water disposal, waste water management, transport of contaminated surface water
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#### **Sewabloc**

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm] Data for 50 Hz operation Also available for 60 Hz	50 - 200 ≤ 1000 ≤ 90 ≤ 10 ≤ +70 ≤ 2900	Close-coupled volute casing pump for horizontal or vertical installation, with various next-generation impeller types, discharge flange to DIN and ANSI standards. Explosion-proof version available. <b>Applications</b> Waste water transport, waste water disposal, waste water management.	
PumpDrive, LevelContro			http://shop.ksb.com/catalog/k0/en/product/ES000069	

#### KWP

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	$\begin{array}{l} 40 - 900 \\ \leq 15000 \\ \leq 100 \\ \leq 100 \\ \geq 10 \\ \geq -40 - \leq +140 \\ \leq 2900 \end{array}$ Data for 50 Hz operation Also available for 60 Hz	stage, single-entry, available with various impeller types: closed multi-channel impeller, open multi-vane impeller and free-flow impeller. ATEX-compliant version available. Applications	
PumpDrive			http://shop.ksb.com/catalog/k0/en/product/ES000018	

#### **KWP-Bloc**

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 325 ≤ 100 ≤ 10	Applications	
PumpDrive			http://shop.ksb.com/catalog/k0/en/product/ES000020	

## Slurry pumps

### WBC

Q [m³/h] H [m] p [bar] T [°C]	designed to withstand maximum stresses, e.g. during pressure surges	
	http://shop.ksb.com/catalog/k0/en/product/ES000227	

### LSA-S

Q [m³/h] H [m] p [bar] T [°C]	≤ 150	<b>Description</b> Premium design white cast iron pump for long service life handling severe slurries. The maintenance-friendly single-wall construction and heavy section white cast iron wet end combined with the cartridge bearing assembly provide maximum reliability, a long service life and ease of maintenance. <b>Applications</b> Ore and tailings transport, cyclone feed, dredging (dry-installed or submerged operation) and industrial processes.	
		http://shop.ksb.com/catalog/k0/en/product/ES000220	

### LCC-M

Q [m³/h] H [m] p [bar] T [°C]	< 90	Description         The wetted pump end (casing, impeller and suction plate / liner) is made of white cast iron. Design optimised to permit easy dismantling and reassembly for maintenance and inspections.         Applications         Reliable pump for high heads and moderately corrosive slurries. Used in mine dewatering, ash and tailings transport and dredging.
		http://shop.ksb.com/catalog/k0/en/product/ES000217

### LCC-R

Q [m³/h] H [m] p [bar] T [°C]	 A un line time	
	http://shop.ksb.com/catalog/k0/en/product/ES000218	

#### TBC

Q [m³/h] H [m] p [bar] T [°C]	≤ 90	design transfers stress loads from the wear plates to the casing covers in high- pressure applications. Pump components made of highly wear-resistant white cast iron. <b>Applications</b> High-head high-flow hydrotransport of tailings, dredged material, pipeline booster stations and other severe duties.	
		http://shop.ksb.com/catalog/k0/en/product/ES000226	

LCV

<b>P</b>	Q [m³/h] H [m] p [bar] T [°C]	≤ 38 < 14	rubber. Applications	
a de la de l			Applications Particularly suitable for use in industrial processes and for transporting tailings in mines and pits.	el 2945apr.
			http://shop.ksb.com/catalog/k0/en/product/ES000016	

FGD

Q [m³/h] H [m] p [bar] T [°C]	< 30	<b>Description</b> High-flow / low-head white cast iron pump with single-wall casing and high- efficiency impeller. Single-piece suction cover with integrated mounting plate. <b>Applications</b> Flue gas desulpurisation systems and process circuits	
		http://shop.ksb.com/catalog/k0/en/product/ES000231	

### MHD

Q [m³/h] H [m] p [bar] T [°C]	≤ 115	susting behaviour and bigh officiancy. Duran components made of white cost	
		http://shop.ksb.com/catalog/k0/en/product/ES000224	

LHD

Q [m³/h] H [m] p [bar] T [°C]	 <b>Description</b> Horizontal volute casing pump for high-volume hydrotransport of solids. For pumping slurries of large and very large particle sizes with a very good suction behaviour and high efficiency. Used in low-pressure applications. Pump components made of white cast iron. <b>Applications</b> Ideal for handling sand and gravel, on dredgers for land reclamation and as booster pumps.	
	http://shop.ksb.com/catalog/k0/en/product/ES000223	

MDX

Q [m³/h] H [m] p [bar] T [°C]	< 90	other ore mining and treatment processes.	
		http://shop.ksb.com/catalog/k0/en/product/ES000850	

Pumps

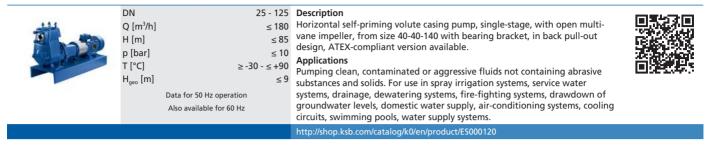
U.	Q [m³/h] H [m] p [bar] T [°C]	≤ 35	<b>Description</b> Rugged vertical shaft submersible pump with casing, impeller and suction cover made of white cast iron, top and bottom impeller inlet. Long-life bearings not exposed to fluid handled. Replaceable wetted components. <b>Applications</b> Particularly suitable for pumping abrasive slurries, dewatering, floor clean-up and process applications.	
			http://shop.ksb.com/catalog/k0/en/product/ES000852	

#### HVF

Q [m³/h] H [m] p [bar] T [°C]	<b>Description</b> The pump provides continuous operation without shutdown or operator intervention. The new hydraulic design removes air from the impeller eye while the pump is running, and the pump can be retrofitted into any existing operation. <b>Applications</b> For use in all froth pumping applications in the mineral processing and industrial minerals industries.	
	http://shop.ksb.com/catalog/k0/en/product/ES000851	

## Self-priming pumps

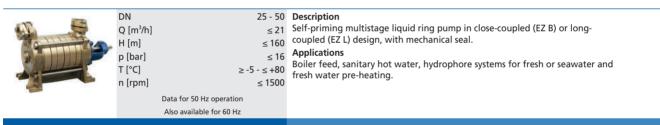
### **Etaprime L**



### **Etaprime B**

199	DN Q [m³/h]		Description Horizontal self-priming volute casing pump, single-stage, with open multi-	
	H [m]	≤ 70 < 10	vane impeller, close-coupled; pump shaft and motor shaft rigidly connected;	
	T [°C] H <sub>aeo</sub> [m]	≥ -30 - ≤ +90 ≤ 9	Applications Pumping clean, contaminated or aggressive fluids not containing abrasive substances and solids. For use in spray irrigation systems, service water	
		Data for 50 Hz operation Also available for 60 Hz	systems, drainage, dewatering systems, fire-fighting systems, drawdown of groundwater levels, domestic water supply, air-conditioning systems, cooling circuits, swimming pools, water supply systems.	
			http://shop.ksb.com/catalog/k0/en/product/ES000119	

#### EZ B/L



AU

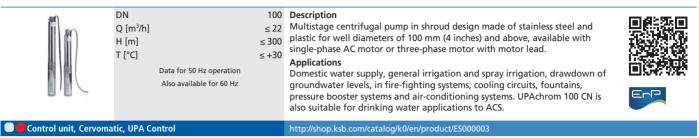
	DN Q [m³/h] H [m] p [bar] T [°C]	≤ 600 ≤ 52 ≤ 10 ≥ -10 - ≤ +80	available. Applications Pumping clean, contaminated and aggressive fluids also containing solids. In	
and a series		Data for 50 Hz operation Also available for 60 Hz	Pumping clean, contaminated and aggressive fluids also containing solids. In fresh water and seawater circuits, fire-fighting applications, as ballast and pilge pumps, and for drainage and waste water applications.	E1284588*
			http://shop.ksb.com/catalog/k0/en/product/ES000750	

### **AU Monobloc**

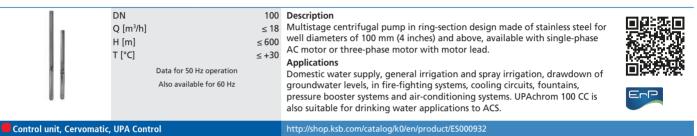
DN Q [m³/h] H [m] p [bar] T [°C]	≤ 53	Description Horizontal self-priming centrifugal pump in close-coupled design, open or semi-open impeller, adjusted via wear plate, with mechanical seal, driven by electric motors or internal combustion engines; ATEX-compliant version available. Applications Pumping clean, contaminated and aggressive fluids also containing solids. In fresh water and seawater circuits, fire-fighting applications, as ballast and bilge pumps, and for drainage and waste water applications.	
		http://shop.ksb.com/catalog/k0/en/product/ES000715	

## Submersible borehole pumps

### **UPAchrom 100 CN**



### **UPAchrom 100 CC**



### **UPA 150C**

	H [m]	≤ 79 < 440	Description All-stainless steel single-stage or multistage centrifugal pump in ring-section design for well diameters of 150 mm (6 inches) and above. Applications Spray irrigation systems, general irrigation systems, drawdown of groundwater levels, domestic water supply, fountains, heat pump systems, water supply systems	
PumpDrive, KSB UMA-S			http://shop.ksb.com/catalog/k0/en/product/ES000003	

PumpDrive, KSB UMA-S

#### UPA 200, 200B, 250C

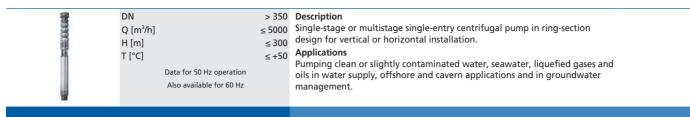
I	DN Q [m³/h] H [m] T [°C]	≤ 330 < 460	Description Single-stage or multistage single-entry centrifugal pump in ring-section design for vertical or horizontal installation. Optionally available with lift check valve or connection branch. For well diameters of 8 inches and above. Applications Pumping clean or slightly contaminated water in general water supply, spray irrigation and general irrigation, drawdown and maintenance of groundwater levels, fountains and pressure booster systems, mining, fire- fighting systems, emergency water supply, etc.
PumpDrive, KSB UMA-S			http://shop.ksb.com/catalog/k0/en/product/ES000003

#### UPA 300, 350

	DN Q [m³/h] H [m] T [°C]	≤ 840 < 480	Description Single-stage or multistage single-entry centrifugal pump in ring-section design for vertical or horizontal installation. Mixed flow hydraulic systems with trimmable impellers. Optionally available with lift check valve or connection branch. For well diameters of 12 inches and above. Applications Pumping clean or slightly contaminated water in general water supply, spray irrigation and general irrigation, drawdown and maintenance of groundwater levels, fountains and pressure booster systems, mining, fire- fighting systems, emergency water supply, etc.	
PumpDrive, KSB UMA-S			http://shop.ksb.com/catalog/k0/en/product/ES000003	

Pump	)S

#### UPA 400-850

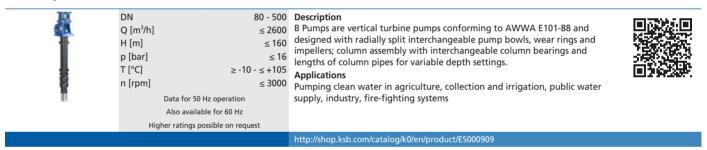


#### UPA D

DN Q [m H [m T [°C	n³/h] ≤ 500 n] < 150	<ul> <li>Description         <ul> <li>Multistage double-entry centrifugal pump in ring-section design for vertical</li> <li>or horizontal installation.</li> <li>Applications             Pumping clean or slightly contaminated water, seawater, liquefied gases and             <li>oils in water supply, offshore and cavern applications and in groundwater</li> <li>management.</li> </li></ul> </li> </ul>
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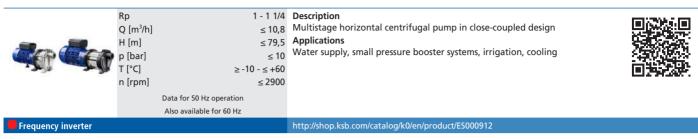
## Vertical turbine pumps

#### **B** Pump



## **High-pressure pumps**





### Movitec H(S)I

	Rp Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 26,3 ≤ 195 ≤ 25	0.75 kW with 1500 rpm are designed with permanent magnets) of efficiency class IE4/IE5 to IEC TS 60034-30-2: 2016, for operation on a KSB PumpDrive 2 or KSB PumpDrive 2 Eco variable speed system without rotor position sensors.	
KSB SuPremE, PumpDrive, PumpMeter			http://shop.ksb.com/catalog/k0/en/product/ES000927	

### Movitec

	Rp DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [rpm]	≥ -20 - ≤ +140	Multistage vertical high-pressure centrifugal pump in ring-section design with suction and discharge nozzles of identical nominal diameters arranged opposite to each other (in-line design), close-coupled. With KSB SuPremE, a magnetless synchronous reluctance motor (exception: motor sizes 0.55 kW / 0.75 kW with 1500 rpm are designed with permanent magnets) of efficiency	
KSB SuPremE. PumpDrive		tor	http://shop.ksb.com/catalog/k0/en/product/ES000865	

#### **Movitec VCI**

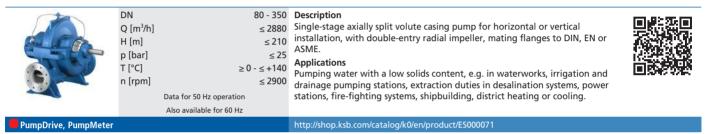
	Q [m³/h] ≤ 22,5 H [m] < 249		
KSB SuPremE, PumpDrive	2	http://shop.ksb.com/catalog/k0/en/product/ES000870	

#### Multitec

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 1500 ≤ 1000 ≤ 100 ≥ -10 - ≤ +200	long-coupled or close-coupled, with axial or radial suction nozzle, cast radial impellers and motor-mounted variable speed system. ATEX-compliant version available.	
KSB SuPremE, PumpDriv	e, PumpMeter		http://shop.ksb.com/catalog/k0/en/product/ES000214	

## **Axially split pumps**

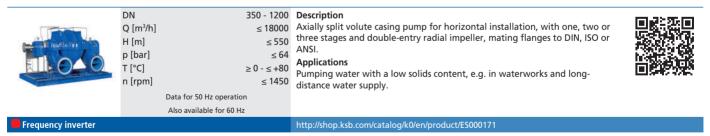
#### Omega



### RDLO

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 10000 ≤ 290 ≤ 30	installation, with double-entry radial impeller, mating flanges to DIN, EN or ASME.
PumpMeter, Frequency inverter			http://shop.ksb.com/catalog/k0/en/product/ES000170

#### **RDLP**

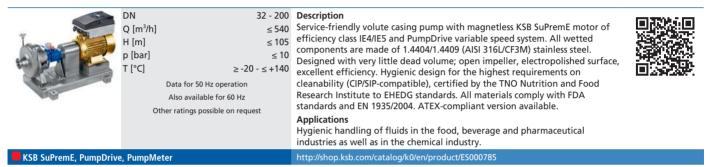


## **Hygienic pumps**

#### Vitachrom

- Comment	DN Q [m³/h] H [m] p [bar] T [°C]	50 - 125 ≤ 340 ≤ 100 ≤ 12 ≥ -30 - ≤ +110 Data for 50 Hz operation Also available for 60 Hz	Service-friendly non-self-priming single-stage hygienic close-coupled pump in back pull-out design with magnetless KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system. The pump features a semi-open impeller and electropolished surfaces. It is very easy to clean by CIP/SIP thanks	
KSB SuPremE, PumpDrive	e, PumpMe	ter	http://shop.ksb.com/catalog/k0/en/product/ES000030	

#### Vitacast



### Vitacast Bloc

and D	A	≤ 340 < 105	components are made of 1.4404/1.4409 (AISI 316L/CF3M) stainless steel. Designed with very little dead volume: open impeller, electropolished surface.	
KSB SuPremE, PumpDriv	e, PumpMeter		http://shop.ksb.com/catalog/k0/en/product/ES000785	

#### Vitaprime

		< 58	Description Service-friendly close-coupled side channel pump (self-priming) with magnetless KSB SuPremE motor of efficiency class IE4/IE5 and PumpDrive variable speed system. All wetted components are made of 1.4404/1.4409 (AISI 316L/CF3M) stainless steel. Hygienic design for the highest requirements on cleanability (CIP/SIP-compatible). All materials comply with FDA standards and EN 1935/2004. Trolley available among other accessories. ATEX-compliant version available. Applications Hygienic handling of fluids in the food, beverage and pharmaceutical industries as well as in the chemical industry.	
KSB SuPremE, PumpDrive			http://shop.ksb.com/catalog/k0/en/product/ES000787	

### Vitastage

	≤ 150 ≤ 16	compatible. All materials comply with FDA standards and EN 1935/2004. Trolley also available among other accessories. <b>Applications</b> Processes with hygienic requirements in the food and beverage industries and in the chemical industry.	
		http://shop.ksb.com/catalog/k0/en/product/ES000788	

### Vitalobe

	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Viscosity [cP] Data for 50 Hz ope Also available for Other ratings possible of	$\leq 342$ $\leq 200$ $\leq 20$ $\geq -40 - \leq +180$ $\leq 200000$ ration 50 Hz	<ul> <li>Description</li> <li>Sturdy rotary lobe pump in hygienic design, bi-directional operation possible, horizontal or vertical orientation of connections. Hygienic design, highly CIP/SIP-compatible due to its almost complete lack of dead volume or narrow clearances. All wetted components made of 1.4404/1.4409 (AISI 316L/CF3M) stainless steel; various rotor types, shaft seals and process connections available. Installed as a pump set with gear unit and standardised motor. Vitalobe is EHEDG-certified. The pump elastomers comply with the FDA standards and EN 1935/2004. Accessories include a trolley, a heatable casing or casing cover and a pressure relief arrangement. An ATEX-compliant version is available.</li> <li>Applications</li> <li>Hygienic and gentle handling of sensitive or high-viscosity fluids in the food, beverage and pharmaceutical industries, the chemical industry and general process engineering.</li> </ul>	
KSB SuPremE, PumpDrive	2		http://shop.ksb.com/catalog/k0/en/product/ES000847	

## Pumps for power station conventional islands

### CHTA / CHTC / CHTD

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [rpm] Also available for 60 Hz Higher ratings possible on requ	≤ 5700 ≤ 5400 ≤ 560 ≤ +270 ≤ 6750	Applications Pumping feed water and condensate in power stations and industrial plants.	
		http://shop.ksb.com/catalog/k0/en/product/ES000239	

### HGB / HGC / HGD

6			Description	1
hat and a	Q [m³/h]	≤ 2300 ≤ 5300	Horizontal radially split ring-section pump with radial impellers, single-entry or double-entry, multistage.	I
	H [m] p [bar]	≤ 5300 ≤ 560	Applications	
	T [°C]	≤ +210	Pumping feed water and condensate in power stations and industrial plants, pumping gas turbine fuels, generating pressurised water for bark peeling and	
	n [rpm]	≤ 7000	descaling units, snow guns, etc.	
	Also available for 60 Hz			
	Higher ratings possible on reque	est		
			http://shop.ksb.com/catalog/k0/en/product/ES000233	

#### HGI

Pumps

H [m] ≤ 2000	Horizontal radially split ring-section pump with radial impellers, single-entry, multistage. <b>Applications</b> Pumping feed water and condensate in power stations and industrial plants.
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#### HGM

Q [m³/h] : H [m] ≤ p [bar] : T [°C] ≤	≤ 350 ≤ 1400 ≤ 140 ≤ 140 ≤ +160 ≤ 3600	Applications Pumping feed water in power stations, boiler feed systems and condensate transport in industrial plants.	
		http://shap.ksh.com/catalog/k0/en/product/ES000236	

### **YNK**

		DN Q [m³/h] H [m] p [bar] T [°C] n [rpm] Higher ratings pos	≤ 5200 ≤ 540 ≤ 100 ≤ +250 ≤ 3300	<b>Description</b> Horizontal radially split single-stage double-entry boiler feed booster pump (booster system) with cast steel single or double volute casing. <b>Applications</b> Pumping feed water in power stations and industrial plants.	
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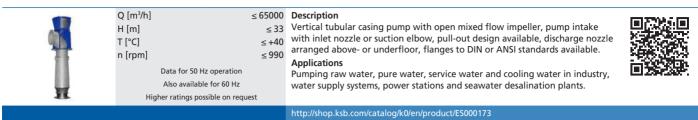
### LUV / LUVA

		DN Q [m³/h] H [m] p [bar] T [°C] n [rpm] Data for 50 Hz operation Also available for 60 Hz	≤ 7000 ≤ 300 ≤ 400 ≤ +425	<b>Description</b> Vertical spherical casing pump, radial impellers, single-entry, single- to three- stage. Suitable for very high inlet pressures and temperatures. Integrated wet winding motor to VDE. Product-lubricated bearings, no need for oil supply systems. Design to TRD, ASME or IBR. <b>Applications</b> Hot water recirculation in forced-circulation, forced-flow and combined- circulation boilers for very high pressures and in solar power towers.	
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#### **WKTB**

DN Q [m³/h] H [m] p [bar] T [°C] n [rpm] Data for 50 Hz operation Also available for 60 Hz	≤ 1500 < 370	<b>Description</b> Vertical can-type ring-section pump on base frame, multistage, first-stage impeller designed as a double-entry suction impeller, radial impellers. Flanges to DIN or ANSI. <b>Applications</b> Pumping condensate in power stations and industrial plants.	
		http://shop.ksb.com/catalog/k0/en/product/ES000506	

#### SEZ



### SEZT

H [m] ≤ 110	<ul> <li>Description</li> <li>Vertical tubular casing pump with open or closed mixed flow impeller</li> <li>Applications</li> <li>Handling seawater in seawater desalination plants.</li> </ul>
	http://shop.ksb.com/catalog/k0/en/product/ES000174

#### PHZ

H [m] ≤ 25	Description Vertical tubular casing pump with mixed flow propeller, pump intake with inlet nozzle or suction elbow, pull-out design available, discharge nozzle arranged above- or underfloor, flanges to DIN or ANSI standards available. Applications Raw water, pure water, service water and cooling water in industry, water supply systems, power stations and seawater desalination plants.
	http://shop.ksb.com/catalog/k0/en/product/ES000158

### PNZ

		H [m] ≤ 15	DescriptionVertical tubular casing pump with axial propeller, pump intake with inlet nozzle or suction elbow, pull-out design available, discharge nozzle arranged above- or underfloor, flanges to DIN or ANSI standards available.Applications Raw water, pure water, service water and cooling water in industry, water supply systems, power stations and seawater desalination plants.
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SNW

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [rpm] Data for 50 Hz operation Also available for 60 Hz Higher ratings possible on requ	350 - 800 $\leq 6500$ $\leq 10$ $\leq +60$ $\leq 1500$ wuest	
		http://shop.ksb.com/catalog/k0/en/product/ES000176

#### **PNW**

Q [m³/h] ≤ H [m] p [bar] T [°C] ::	0 - 800 ≤ 9000 ≤ 10 ≤ 10 ≤ 10 ≤ +60 ≤ 1500	maintenance-free Residur bearings, discharge nozzle arranged above or below floor level. Applications Irrigation and drainage, stormwater pumping stations, for raw water and
		http://shop.ksb.com/catalog/k0/en/product/ES000163

#### **Beveron**

Q [m <sup>3</sup> /s] H [m] Data for 50 Hz operat Also available for 60 Higher ratings possible on	≤ 27 ion Hz	<b>Description</b> Concrete volute casing pump with mixed flow impeller, single-stage, with zero-maintenance Residur bearings lubricated by the fluid handled. <b>Applications</b> Coast protection and flood control, irrigation and drainage, low-lift pumping stations, reservoir filling, cooling water, raw and pure water.	
		http://shop.ksb.com/catalog/k0/en/product/ES000868	

### SPY

DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 21600 ≤ 50 ≤ 10	<b>Description</b> Long-coupled volute casing pump, single-stage, in back pull-out design. <b>Applications</b> Irrigation, drainage and water supply systems, for pumping condensate, cooling water, service water, etc.
Data for 50	Hz operation	
Also availa	ble for 60 Hz	
Higher ratings p	ossible on request	

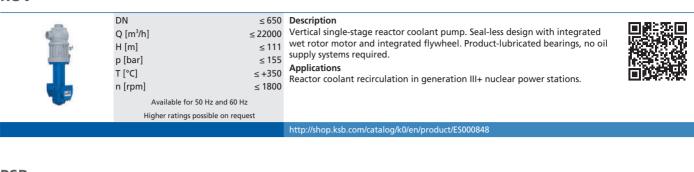
# Pumps for nuclear power stations

RER	DN ≤800	Description	
	$\begin{array}{llllllllllllllllllllllllllllllllllll$	on the inside, with diffuser, either with integrated pump thrust bearing or shaft supported by motor bearing. Applications Reactor coolant recirculation in nuclear power stations.	
	Higher ratings possible on request		
		http://shop.ksb.com/catalog/k0/en/product/ES000144	

### RSR

DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] n [rpm] Available for 50 Hz and 60 Hz Higher ratings possible on reque	≤ 215 ≤ 175 ≤ +350 ≤ 1800	Description Vertical single-stage reactor coolant pump with cast or forged casing, shaft supported by motor bearing. Applications Reactor coolant recirculation in nuclear power stations.	
		http://shop.ksb.com/catalog/k0/en/product/ES000146	

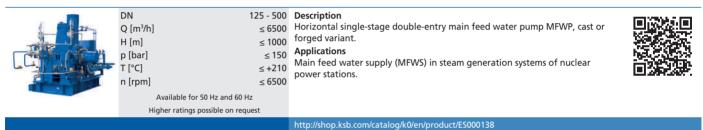
#### RUV



### PSR

Q [m³/h] ≤ H [m] p [bar] T [°C] ≤	≤ 9000 ≤ 45 ≤ 75 ≤ +300 ≤ 2000	Applications	
		http://shop.ksb.com/catalog/k0/en/product/ES000150	

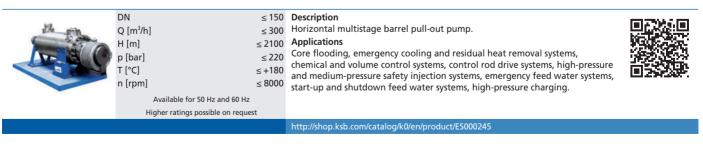
#### RHD



#### **LUV Nuclear**

STATE OF	DN Q [m <sup>3</sup> /h] H [m] p [bar] T [°C] Data for 50 Hz operation Also available for 60 Hz	40 - 600 ≤ 7000 ≤ 300 ≤ 320 ≤ +430		
			http://shop.ksb.com/catalog/k0/en/product/ES000855	

#### RHM



#### RVM



## Pumps for desalination by reverse osmosis

**RPH-RO** 

DN Q [m³/h] H [m] p [bar] T [°C]	≤ 250 < 11	<ul> <li>Description</li> <li>Horizontal radially split volute casing pump for dry installation, made of super-duplex stainless steel.</li> <li>Applications</li> <li>Booster pump for RO seawater desalination systems.</li> </ul>
		http://shop.ksb.com/catalog/k0/en/product/ES000570

### HGM-RO

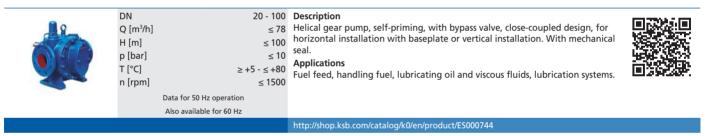
DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 1500 ≤ 950 ≤ 120 ≥ 0 - ≤ +40	stainless steel variant or super duplex stainless steel variant, also suitable for chilled water applications.	
		http://shap.ksh.com/satalag/k0/ap/product/ES000227	

### **Multitec-RO**

	DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 850 ≤ 1000 ≤ 100	Made of duplex or superduplex stainless steel. Applications High-pressure pump for RO seawater desalination systems and geothermal
		Also available for 60 Hz	
KSB SuPremE, PumpDrive			

## Positive displacement pumps

RC / RCV



## **Fire-fighting systems**

EDS

DN Q [m³/h] H [m] p [bar] T [°C] n [rpm]	≤ 840 ≤ 140 < 16	<b>Description</b> Automatic fire-fighting system consisting of a jockey pump and one or several duty pumps, with electric motor or diesel engine. Includes manifold, valves, accessories and control unit. To EN 12845, CEA 4001, UNE-23500, NFPA-20, etc. <b>Applications</b> Office buildings, hotels, industry, shopping malls, etc.
		http://shop.ksb.com/catalog/k0/en/product/ES000726

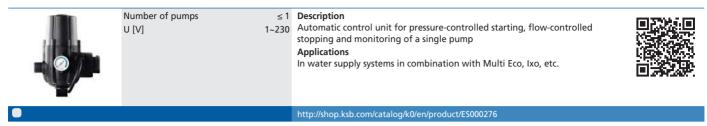
### DU / EU

Pumps

	≤ 2500 ≤ 150 ≤ 25	Description Automatic fire-fighting system consisting of pumps with electric motor or diesel engine and control unit. To EN 12845, CEA 4001, UNE-23500, NFPA-20, FM, etc. Applications Office buildings, hotels, industry, shopping malls, etc.
		http://shop.ksb.com/catalog/k0/en/product/ES000727

## **Control units**

### **Controlmatic E**



### **Controlmatic E.2**

Number of pumps U [V]	≤ 1 1~230	<b>Description</b> Automatic control unit for pressure-controlled starting, flow-controlled stopping and monitoring of a single pump <b>Applications</b> In water supply systems in combination with Multi Eco, Ixo, etc.	
		http://shop.ksb.com/catalog/k0/en/product/ES000276	

### **Cervomatic EDP.2**

Correction 10.073	Number of pumps U [V]	<b>Description</b> Automatic control unit for pressure-controlled starting and either pressure- controlled or flow-controlled stopping and monitoring of a single pump. <b>Applications</b> In water supply systems with pumps of the Multi Eco, Ixo, etc. type series with single-phase or three-phase motors	
		http://shap.ksh.com/catalog/k0/op/product/ES000275	

### **LevelControl Basic 2**

Number of pumps ≤ 2 P [kW] ≤ 22 U [V] 1~230 / 3~400 Available for higher ratings and other mains voltages on request.	Level control unit for controlling and protecting either one or two pumps. DOL starting up to 4 kW, star-delta starting up to 22 kW. Higher ratings on request. Applications Tank drainage using float switches, digital switches, 420 mA, pneumatic (without compressor) or bubbler system in building services and waste water applications. Tank filling using float switches, digital switches or 420 mA signals in building services and water supply applications.	
	http://shop.ksb.com/catalog/k0/en/product/ES000603	

### **UPA** Control

Number of pumps P [kW] U [V]	_	Description         The KSB switchgear is suitable for level control and protection of submersible borehole pumps, submersible motor pumps and dry-installed pumps with single-phase AC motors 1~ 230 V or three-phase motors 3~ 230 / 400 V / 50 Hz. The motor is started DOL. Enclosure: IP56, dimensions: 205 × 255 × 170 mm (H × W × D).         Applications         Irrigation and filling or draining tanks in water supply applications in combination with 4" and 6" pumps.	
		http://shop.ksb.com/catalog/k0/en/product/ES000006	

### Hyatronic N

*	 Description Pump control system in control cabinet for cascade starting and stopping of up to six pumps. Applications For draining tanks and sumps in drainage and waste water disposal applications. For filling tanks in water supply applications. Level measurement using float switch or 420 mA sensor.
	http://shap.ksh.com/catalog/k0/en/product/ES000303

## Monitoring and diagnosis

### Amacontrol II

	Enclosure		Description
	T [°C]	≥0 - ≤ +40	Monitoring system for submersible motor pumps, with tripping function.
	Dimensions		
	H × W ×D [mm]	180 × 250 × 115	
	U [V]	AC 230	

### **Amacontrol III**

Connections Fastening T [°C] Dimensions H × W ×D [mm] U [V]	35 mm standard rail ≥ -30 - ≤ +70 127,2 × 45 × 113,6 AC 115-230 ± 10 %	Protection module for water and waste water products as all-in-one device for motor temperature measurement, bearing temperature measurement, leakage measurement, vibration measurement and voltage measurement, as well as diagnosing a pump, pump system or submersible mixer to ensure trouble-free and reliable operation. <b>Applications</b> In water and waste water systems in combination with Amacan, Amamix, Amaprop, Amaline, Amarex KRT or Sewatec
U [V]	AC/DC 24 ± 10 %	
		http://shop.ksb.com/catalog/k0/en/product/ES000946